

SOIL SURVEY

Tift County Georgia



UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
In cooperation with
UNIVERSITY OF GEORGIA, COLLEGE OF AGRICULTURE

HOW TO USE THE SOIL SURVEY REPORT

THIS SURVEY of Tift County will help you plan the kind of farming that will protect your soils and provide good yields. It describes the soils; shows their location on a map; and tells what they will do under different kinds of management.

Find Your Farm on the Map

In using this survey, start with the soil map, which consists of the 22 sheets bound in the back of this report. These sheets, if laid together, make a large photographic map of the county as it looks from an airplane. You can see woods, fields, roads, rivers, and many other landmarks on this map.

To find your farm on the large map, use the index to map sheets. This is a small map of the county on which numbered rectangles have been drawn to show where each sheet of the large map is located.

When you have found the map sheet for your farm, you will notice that boundaries of the soils have been outlined and that there is a symbol for each kind of soil. All areas marked with the same symbol are the same kind of soil, wherever they appear on the map.

Suppose you have found on your farm an area marked with the symbol TcB1. You learn the name of the soil this symbol represents by looking at the map legend. The symbol TcB1 identifies Tifton sandy loam, very gently sloping phase.

Learn About the Soils on Your Farm

Tifton sandy loam, very gently sloping phase, and all the other soils mapped are described in the section, Descriptions of Soils. Soil scientists, as they walked over the fields and through

the woodlands, described and mapped the soils; dug holes and examined surface soils and subsoils; measured slopes with a hand level; noted differences in growth of crops, weeds, brush, or trees; and, in fact, recorded all the things about the soils that they believed might affect their suitability for farming.

With help from farmers and many other people, the scientists placed each soil in a capability unit, which is a group of similar soils. Capability units can also be called management groups of soils. Capability units are grouped into capability classes and subclasses.

Tifton sandy loam, very gently sloping phase, is in capability unit IIe-2. Turn to the section, Use, Management, and Productivity, and read what is said about the soils of the county. Look at table 2 to see what kind of management the soils of unit IIe-2 need. Table 3 will tell you how much you can expect to harvest from Tifton sandy loam, very gently sloping phase.

Make a Farm Plan

For the soils on your farm, compare your yields and farm practices with those given in this report. Look at your fields for signs of runoff and erosion. Then decide whether or not you need to change your methods. The choice, of course, must be yours. This survey will aid you in planning new methods, but it is not a plan of management for your farm or any other farm in the county.

If you find that you need help in farm planning, consult the local representative of the Soil Conservation Service or the county agricultural agent. Members of the staff of your State agricultural experiment station and others familiar with farming in your county will also be glad to help you.

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SOIL SURVEY OF TIFT COUNTY, GEORGIA

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The Soils of Tift County

Most of the soils of Tift County are suitable for farming. Nearly half of the county is good cropland. The common crops are tobacco, peanuts, cotton, and corn. Those soils that are not good for crops are useful for pasture or woodland. The information in this report will help farmers plan the best use of the soils on their farms.

Fieldwork for this survey was completed in 1946. Unless otherwise specifically indicated, all statements in this report refer to conditions in the county at that time.

Soil Associations

The soil association map bound at the back of this report is a generalization of the detailed soil map. It shows the county divided into general areas, or soil associations. Each soil association consists of several kinds of soils that occur in a constantly repeated pattern of distribution. The soils in any one association are not necessarily similar; they may be quite different.

The soil association map and the interpretive material in this section can be used to evaluate the general quality of the soils of an area and to determine the limitations, suitabilities, and requirements of an association area for agricultural use. It can be used to get a general picture of the soil resources of the county.

Tifton-Rains association

The Tifton-Rains association consists of soils that occur on level or very gently sloping ridgetops, on gentle or very gentle slopes, and in level or very gently sloping flats or drainageways. The Tifton soils dominate the ridgetops and gentle slopes and occur with small areas of Norfolk, Gilead, and Sunsweet soils. The Rains soils dominate the lowlands or flats. In many places narrow areas of Lynchburg loamy sand lie above the Rains soils, between the lowland and the upland.

This soil association consists about 60 percent of Tifton soils and 20 percent of Rains soils; the rest is small areas of Lakeland, Norfolk, and Gilead soils. The Tifton soils are likely to erode. The Rains soils are poorly to very poorly drained.

The soils of this association are intensively used—the Tifton soils for crops and to some extent for pasture, and the Rains soils for timber and pasture. The areas are suitable for diversified farming.

If the upland soils of this association are well managed, the lowland soils will also benefit. Pastures on Rains soils are improved by drainage. Forests need only ordinary good forestry management.

Lakeland-Kershaw association

The dominant soils in the Lakeland-Kershaw association are sands and deep sands. This association occurs in a strip $\frac{1}{2}$ to 2 miles wide along the east edge of the bottom lands of the Little River. Small areas of sandy soils that are similar to those of this association occur elsewhere in the county, but they are too small to be shown on the soil association map. Lakeland soils make up about 75 percent of this association, Kershaw soils about 10 percent, and Norfolk and Rains soils most of the rest.

The sand is 4 to 60 feet deep; the average depth is 20 feet. The topography is generally undulating to rolling. The strongest slopes are next to the bottom lands or river swamps. The soils are very low in plant nutrients and low in water-holding capacity.

A very small part of this association is cleared and used for crops. The predominant vegetation is scrub oak and blackjack oak. Some longleaf pine is intermixed, and there is a sparse understory of wiregrass. Experiments are being made to determine whether these soils will produce forage. Reforesting these areas with pine has been fairly successful, although many seedlings die in dry years. Before pine seedlings are planted, bulldozers are used and herbicides are applied in an attempt to eradicate scrub oaks.

Swamp-Alluvial soils association

The Swamp-Alluvial soils association occupies the flood plains of the rivers and creeks of the county. The soils in this association are poorly or very poorly drained; water is on the surface 30 to 60 percent of the time. The topography is level or very gently sloping. Areas of these soils range in width from 200 feet to $\frac{1}{2}$ mile and extend to within a short distance of the headwaters of the main streams. Swamp, which generally occurs along the large streams or rivers, makes up slightly more than 75 percent of the association. Alluvial soils occur along the creeks and make up 20 percent of the association.

This association has a swamp vegetation of gum, bay, titi, sumac, and some pine. Hardwoods are likely to invade the stands of pine trees. Logging is difficult. In spite of these handicaps, however, this association produces moderately good yields of saw timber. Some tree farmers are trying to eradicate the undesirable hardwoods by applying herbicides.

Lakeland-Norfolk-Rains association

The Lakeland-Norfolk-Rains association consists of the coarse-textured soils of the level or very gently sloping uplands—thick surface phases of Norfolk loamy sand;

Lakeland loamy sand and Lakeland sand; and Rains loamy sand. These soils occur in about equal proportions and make up about 80 percent of the association. Klej and Lynchburg soils are fairly common, and there are smaller acreages of Leon and Tifton soils.

The upland soils of the Lakeland and Norfolk series are used for corn, tobacco, peanuts, and to some extent for cotton and pasture. The poorly drained lowlands are in forest. The moderately well drained Lynchburg soils and Klej soils are used for tobacco and corn. Erosion is slight in this association. To keep the soils fertile, rotations of soil-building crops and frequent applications of fertilizers are needed.

Shubuta-Susquehanna-Gilead association

The Shubuta-Susquehanna-Gilead association occurs in the middle northwestern part of the county and to a small extent in the extreme northwestern part. This association is 30 percent Shubuta soils; 10 percent Susquehanna sandy loam; 10 percent Gilead loamy sand; and 10 percent each of the Tifton, Norfolk, and Rains soils. The remaining 20 percent consists of Lakeland, Lynchburg, and Klej soils.

This association occupies very gentle to strong slopes. Erosion is slight to severe. The soils are moderately deep to moderately shallow and have a fine-textured, slowly permeable subsoil.

Most of this association is under coniferous trees, mostly longleaf pine and slash pine. The soils are only fair for crops; they are better suited to trees and to pasture.

Rains-Lynchburg-Lakeland-Norfolk association

The Rains-Lynchburg-Lakeland-Norfolk association consists of level to gently sloping soils that are uneroded or slightly eroded. Except for the soils of the Lakeland-Kershaw association, the soils of this association are generally sandier than those of the other associations in the county. Drainage ranges from poor to excessive. This association has a larger proportion of imperfectly drained and poorly drained soils than the Lakeland-Norfolk-Rains association.

The soils of this association are used for crops, pasture, and trees. The Lynchburg and Norfolk soils are especially well suited to tobacco. The Lynchburg soils need some artificial drainage. All of the soils of the association are low in fertility.

Gilead-Tifton association

The Gilead-Tifton association occurs in a small area in the middle north-central part of the county. The soils are gently sloping to strongly sloping and deep or moderately deep. Small areas of Rains, Norfolk, and Shubuta soils are included, and even smaller areas of Susquehanna sandy loam.

The upland areas of this association are about equally divided between forest and crops. There is some pasture. This association is only fairly well suited to crops, but it is moderately well suited to forest. Cultivated areas need careful management to prevent erosion.

Use, Management, and Productivity

The upland soils of Tift County generally are very easy to till. Because most of them are coarse textured and well drained, they can be worked soon after wet

weather. The lowland soils and the Susquehanna soils are difficult to cultivate and are used almost entirely for timber or pasture.

Fertilizer and lime.—The soils of this county are low in natural fertility. Commercial fertilizers are needed for satisfactory yields. Assistance in deciding what kind and amount of fertilizer is needed for a particular crop can be obtained from the Georgia Agricultural Extension Service.

All the soils in the county that have not been limed are acid. The pH value normally ranges from 4.0 to 6.0. Additions of lime generally benefit plants, especially legumes. The effect of lime on grass-legume pasture is shown in table 1. Fields in which tobacco is grown should not be limed unless the pH is below 5.2.

For the Tifton, Norfolk, and other soils containing considerable clay, 1,500 to 2,400 pounds of ground limestone per acre is suggested. Lakeland sand and Lakeland loamy sand need only 1,000 pounds per acre. If the Rains soils are used for pasture of white clover or Ladino clover, they may need as much as 1½ to 2 tons of ground limestone per acre.

The beneficial effects of liming are not noticeable for more than a year. Even then, the reduction in acidity may not be detected in the field, but the quality of the crop is improved. In a particular rotation only one crop may respond to lime by giving higher yields.

Artificial drainage.—The lowland pastures on Rains loamy sand are artificially drained. Normally one drainage ditch is ample, but in places other ditches are

TABLE 1.—*The effect of lime on lowland pasture of dallisgrass, carpetgrass, and whiteclover on the thick-surface phases of Rains loamy sand, as shown by gains in weight of steers*¹

[Limed pastures treated with 1½ tons lime per acre in 1945 and 1949. Both limed and unlimed pastures fertilized with 600 pounds of 0-14-10 in 1945 and 1949. In 1946, 12 steers were kept on 6 acres of pasture; in all other years, 9 steers were kept on 6 acres]

Grazing period and treatment	Average initial weight	Average final weight	Total gain, live weight	Average gain per steer	Gain in animal live weight per acre
Mar. 20–Oct. 30, 1946:	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>
No lime.....	560. 9	643. 6	992	82. 7	165. 3
Lime.....	562. 6	681. 3	1, 425	118. 8	237. 5
Apr. 9–Nov. 5, 1947:					
No lime.....	664. 0	766. 6	923	102. 6	157. 3
Lime.....	655. 1	786. 9	1, 186	131. 8	197. 5
Mar. 24–Nov. 3, 1948:					
No lime.....	457. 7	663. 6	1, 853	205. 9	309. 0
Lime.....	485. 9	782. 7	2, 671	296. 8	445. 0
Mar. 9–Nov. 2, 1949:					
No lime.....	514. 8	744. 4	2, 067	229. 7	344. 5
Lime.....	516. 1	739. 4	2, 010	223. 3	335. 0
Mar. 29–Nov. 22, 1950:					
No lime.....	414. 9	593. 9	1, 611	179. 0	268. 5
Lime.....	416. 8	675. 5	2, 329	258. 8	388. 2
Mar. 28–Nov. 7, 1951:					
No lime.....	516. 8	768. 9	2, 269	252. 1	378. 2
Lime.....	470. 3	763. 9	2, 642	293. 6	440. 3
6-year average:					
No lime.....	521. 4	696. 8	1, 619	175. 3	270. 5
Lime.....	517. 8	741. 6	2, 044	220. 5	340. 6

¹STEVENS, J. L. PASTURES OF THE COASTAL PLAIN OF GEORGIA. Ga. Coastal Plain Exp. Sta., Bul. 27, 22 pp., illus. (Revised 1952).

used to intercept seepage. Few crops are grown on the poorly drained Grady sandy loam. Lynchburg loamy sand, Klej loamy sand, and other imperfectly drained soils are cultivated, mostly for tobacco. In many places these soils are adequately drained if the crop rows are on a slight grade. In large fields drainage ditches may be needed.

Irrigation.—The Norfolk and Tifton soils are well suited to irrigation; the Lakeland, Gilead, Shubuta, Huckabee, Klej, and Lynchburg soils are moderately well suited. Most of the irrigation water is used on tobacco; some is used on cabbage, tomatoes, or other special crops. In 1956, approximately 10,000 acres were irrigated at least once.

Capability groups of soils

Soils of the county have been grouped in units within capability classes and subclasses. This is part of a nationwide system of capability grouping in which there are 8 land-capability classes, up to 4 subclasses in most of them except class I, and units that are groups of similar soils within each subclass.

Capability classes.—The 8 general classes are based on the degree to which natural features of each soil limit its use or cause risk of damage if it is used for crops, grazing, woodland, or wildlife. A soil is placed in one of these classes after study of the uses that can be made of it, the risks of erosion or other damage when it is used, and the need for practices to keep it suitable for use, to control erosion, and to maintain yields.

In classes I, II, and III are soils that are suitable for annual or periodic cultivation for annual or short-lived crops. Class I soils are those that have the widest range of use and the least risk of damage. They are level or nearly level, productive, well drained, and easy to work. They can be cultivated with almost no risk of erosion and will remain productive if managed with normal care.

Class II soils can be cultivated regularly but they do not have quite so wide a range of suitability as class I soils, or they need more protection. Some class II soils are gently sloping and consequently need moderate care to prevent erosion; others may be slightly droughty or slightly wet, or somewhat limited in depth.

Class III soils can be cropped regularly but have a narrower range of use and need still more careful management.

In class IV are soils that should be cultivated only occasionally or only under very careful management.

In classes V, VI, and VII are soils that as a rule should not be cultivated for annual or short-lived crops but can be used for pasture, range, woodland, or wildlife. Class V soils are nearly level to gently sloping but are droughty, wet, low in fertility, or otherwise unsuitable for cultivation.

Class VI soils are not suitable for crops because they are steep or droughty or otherwise limited, but they give fair yields of forage or forest products. Some soils in class VI can, without damage, be cultivated enough so that forest trees can be set out or pasture plants seeded.

Class VII soils provide only poor to fair yields of forage or forest products.

In class VIII are soils that have practically no agricultural use. Some of them have value as watersheds, wildlife habitats, or scenery.

Capability subclasses.—The soils in any one capability class are limited by their natural features to about the same degree, but they may be limited for different reasons.

To show the main kind of limiting factor, any one of classes II through VIII may be divided into subclasses, each identified by a letter following the capability class number. The letter "e" indicates that the risk of erosion is what chiefly limits the uses of the soil; the letter "w" that soil is too wet for general use and needs water control; the letter "s" that the soil is shallow, droughty, or unusually low in fertility; and the letter "c" that the climate is so hazardous that it limits uses of the soil.

Capability units.—Capability units consist of similar soils within a class and subclass. Some consist of only one soil. Soils in a unit have about the same use suitability and management needs and give about the same response to similar management. Capability units are designated by an arabic number joined by a hyphen to the class or subclass designation. For example, unit IIIe-5 consists of Tifton loamy sand, gently sloping thick surface phase, and Norfolk loamy sand, gently sloping thick surface phase. These soils are enough alike to have the same use suitability and management needs. Capability units are most useful to those who develop and carry out programs of soil use and management.

Capability classes in Tift County

Class I soils have no serious limitations. Slope, texture, and structure are favorable, and the soils are not likely to erode. They are deep, permeable, and easy to work. They have a large capacity for holding moisture that is available to plants, and they contain at least a fair amount of plant nutrients. With normal management, class I soils can be used intensively without being seriously deteriorated. Three-tenths of 1 percent of Tift County, or 387 acres, is in class I. Figure 1 shows a class I soil.

Class II soils have some limitations, and they need some conservation practices to keep them productive. The limitations are not great, and management is not difficult. These soils have a wide variety of uses—cultivated crops, pasture, forest, and wildlife. Class II soils make up 80,403 acres, or 47.4 percent of the county. Figure 2 shows a class II soil (see also figs. 10, 11, 12, 13, and 14).

Class III soils are more restricted in their use than Class II soils and require more careful management. Under good management they are suited to many uses. They occupy 17,300 acres, or 10.1 percent of the county. Figure 3 shows a class III soil.

Class IV soils have decided limitations if used for crops and require careful management. These soils probably cannot be used successfully for crops year after year.



Figure 1.—Tifton sandy loam, level phase. This soil is in capability unit I-1.



Figure 2.—Lynchburg loamy sand, level phase, must be drained to produce crops like the tobacco shown. This soil is drained by the rows. This soil is in capability unit IIw-2.



Figure 5.—Rains loamy sand, level thick surface phase, has to be drained to produce this lowland pasture of dallisgrass, lespedeza, and white dutch clover. This soil is in capability unit Vw-2.



Figure 3.—Lakeland loamy sand, very gently sloping phase, is low in fertility and moisture-holding capacity. This soil is in capability unit IIIs-1.



Figure 6.—Sunsweet soils, eroded sloping phases, are best suited to pine or kudzu. This soil is in capability unit VIIe-2.



Figure 4.—Lakeland loamy sand, gently sloping phase, with a native cover of longleaf pine, some scrub oak, and an understory of wiregrass. This soil is in capability unit IVs-1.

forest, and wildlife. The pasture can be improved by special practices. Class V soils make up 59,952 acres, or 35.3 percent of the county. Figure 5 shows a class V soil.

Class VI soils are not well suited to cultivation. They are too steep, stony, shallow, wet, unfertile, or low in water-holding capacity; or the climate is too severe. These soils are suited to pasture, but the pasture must be carefully managed. Class VI soils make up 1,515 acres, or 0.9 percent of the county.

Class VII soils are so limited by unfavorable features that it is impractical to try to improve them for pasture. A few areas can be used for unimproved pasture. These soils are suited to forest and wildlife. Class VII soils make up 6,918 acres, or 4.1 percent of the county. Figure 6 shows class VII soils.

Class VIII soils are entirely unsuited to crops, pasture, or forest. They may be useful for wildlife, recreation, or watersheds. Tift County has no class VIII soils.

Management of soils by capability units

In table 2 the soils of Tift County are grouped into capability units and the use suitability and management needs of the soils of each unit are described. The

They make up 3,361 acres, or 1.9 percent of the county. Figure 4 shows a class IV soil.

Class V soils are nearly level but are unsuited for cultivated crops because of stoniness, wetness, overflow, or climate. These soils, however, are well suited to pasture,

TABLE 2.—*Management of soils by capability units*

Capability units and soils	Suitable crops or cover	Suitable rotations	Management
Unit I-1.—Deep, nearly level soils; little or no erosion; surface soil coarse textured; subsoil moderately coarse textured and rapidly permeable. Norfolk loamy sand, level phase. Tifton sandy loam, level phase.	Crops common to area: coastal bermudagrass, crimson clover, other grasses, and legumes.	Cotton; 2d year, peanuts followed by winter oats; 3d year, crotalaria. Cotton or vegetables followed by oats grown for grazing; 2d year, peanuts followed by blue lupine; 3d year, corn.	<i>Crops:</i> Keep turnrows and fields in vegetation; lime as needed; plow under crop residue. <i>Hay and pasture:</i> Prepare first year; lime and fertilize; mow as needed.
Unit IIe-1.—Deep, very gently sloping soils; surface soil coarse textured; subsoil moderately fine textured and rapidly permeable. Norfolk loamy sand, very gently sloping phase. Norfolk loamy sand, eroded very gently sloping phase.	Crops common to area: coastal bermudagrass, bahiagrass, other grasses, and legumes.	Peanuts followed by blue lupine; 2d year, corn followed by oats grown for grain; 3d year, crotalaria followed by peas. Rotations based on coastal bermudagrass or bahiagrass and including common crops. Cotton; 2d year, peanuts followed by blue lupine; 3d year, corn. Oats followed by lespedeza; 2d year, peanuts followed by blue lupine; 3d year, corn.	<i>Crops:</i> Maintain complete posal system of terraces and till on contour; keep turnrows and fields in close vegetation; arrange rotation strips of about equal width and fertilize as needed. <i>Hay and pasture:</i> Prepare first year; use stalk cutter or rotary mower to beat down stalks.
Unit IIe-2.—Deep, very gently sloping soils; subsoils moderately fine textured and rapidly permeable; many concretions of iron. Tifton sandy loam, very gently sloping phase. Tifton sandy loam, eroded very gently sloping phase. Tifton loamy coarse sand, very gently sloping phase.	Crops common to the area; coastal bermudagrass, bahiagrass, other grasses, and legumes.	Peanuts followed by blue lupine; 2d year, corn followed by oats grown for grain; 3d year, crotalaria followed by peas. Rotations based on coastal bermudagrass and including common crops. Cotton; 2d year, peanuts followed by blue lupine; 3d year, corn.	<i>Crops:</i> Maintain complete posal system of terraces and till on contour; keep turnrows and fields in close vegetation; arrange rotation strips of about equal width. If corn follows blue lupine, crop residue on surface tiller and winter; use stalk cutter and mower to beat down stalks and fertilize as needed. <i>Hay and pasture:</i> Prepare first year; apply lime and fertilize; mow pasture as needed.
Unit IIe-4.—Moderately deep, very gently sloping soils; lower subsoil fine textured, brittle, and slowly permeable; some concretions of iron on surface. Tifton sandy loam, very gently sloping thin solum phase. Gilead loamy sand, very gently sloping thick surface phase.	Cotton, peanuts, corn, oats; coastal bermudagrass and other grasses; winter and summer legumes.	Rotations based on coastal bermudagrass and including common crops. Cotton; 2d year, peanuts followed by blue lupine; 3d year, corn.	<i>Crops:</i> Maintain complete posal system of terraces and till on contour; keep turnrows and fields in close vegetation; arrange rotation strips of about equal width. If corn follows blue lupine, residue on surface through winter; use stalk cutter and mower to beat down stalks and fertilize as needed. <i>Hay and pasture:</i> Prepare first year; apply lime and fertilize; mow pasture as needed.

TABLE 2.—*Management of soils by capability units—Continued*

Capability units and soils	Suitable crops or cover	Suitable rotations	Management
Unit II-1.—Deep, level or very gently sloping, slightly eroded soils; surface soil coarse textured; subsoil moderately coarse textured; moderately low in moisture-holding capacity and fertility. Tifton loamy sand, level thick surface phase. Tifton loamy sand, very gently sloping thick surface phase. Norfolk loamy sand, level thick surface phase. Norfolk loamy sand, very gently sloping thick surface phase. Norfolk loamy sand, eroded very gently sloping thick surface phase.	Except cotton, crops common to area, and perennial legumes and grasses.	Oats followed by crotalaria; 2d and 3d years, corn and crotalaria. 1st and 2d years, corn and runner peanuts for hog forage; 3d year, peanuts followed by blue lupine. Tobacco followed by oats and crotalaria for 2 years.	<i>Crops:</i> Use contour cultivation on turnrows and borders of close-growing vegetation. fertilize as needed. <i>Hay and pasture:</i> Prepare firm apply lime and fertilize pasture as needed.
Unit II-2.—Deep, level and very gently sloping soils; surface soil and subsoil loamy sands; low in moisture-holding capacity and fertility. Lakeland loamy sand, level phase. Huckabee loamy fine sand.	Except cotton, crops common to area, and perennial legumes and grasses. Tobacco, corn, vegetables, oats, and crotalaria.	Oats followed by crotalaria; 2d and 3d years, corn and crotalaria. Corn and runner peanuts for hog forage for 2 years; 3d year, peanuts followed by blue lupine. Tobacco followed by oats and crotalaria for 2 years. Oats followed by lespedeza; 2d year, corn; 3d year, vegetables. Corn and crotalaria for 2 years; 3d year, vegetables. Tobacco followed by oats and crotalaria for 2 years.	<i>Crops:</i> Cultivate on contour turnrows and borders of close-growing vegetation. fertilize as needed. <i>Hay and pasture:</i> Prepare firm apply lime and fertilize mow pasture as needed.
Unit II-2.—Imperfectly drained, level or very gently sloping soils; subsoils medium textured and moderately permeable. Lynchburg loamy sand, level phase. Lynchburg loamy sand, very gently sloping phase.	Crops common to area; coastal bermudagrass, bahiagrass, other grasses, and legumes.	Oats followed by crotalaria; 2d year, cotton followed by blue lupine. Rotations based on coastal bermudagrass or bahiagrass and including common crops.	<i>Crops:</i> Drain by row arrangement all fields and by a main ditch in fields; use moderately high melons. Lime and fertilize <i>Hay and pasture:</i> Prepare firm apply lime and fertilizer.
Unit IIIe-1.—Deep, gently sloping, moderately eroded soil; subsoil moderately fine textured and rapidly permeable. Norfolk loamy sand, eroded gently sloping phase.	Crops common to area, except pecans and tobacco; coastal bermudagrass, bahiagrass, other grasses, and legumes.	Oats followed by crotalaria and peas; 2d year, corn. Peanuts followed by blue lupine; corn followed by oats and crotalaria for 2 years. Rotations based on coastal bermudagrass and including common crops.	<i>Crops:</i> Maintain complete disposal system of terraces; let; till on contour; keep and borders of fields in close vegetation; arrange rotation strips of about equal width. If corn follows blue lupine, lime on surface through fall and Lime and fertilize as needed. <i>Hay and pasture:</i> Prepare firm apply lime and fertilizer.
Unit IIIe-2.—Deep, gently sloping, eroded and severely eroded soils; subsoil moderately fine textured and rapidly permeable; contain concretions of iron. Tifton sandy loam, gently sloping phase. Tifton sandy loam, eroded gently sloping phase.	Crops common to area, except pecans and tobacco; coastal bermudagrass, bahiagrass, other grasses, and legumes.	Oats followed by crotalaria and peas; 2d year, corn. Peanuts followed by blue lupine; corn followed by oats and crotalaria for 2 years. Rotations based on coastal bermudagrass and including common crops.	<i>Crops:</i> Maintain complete disposal system of terraces; let; till on contour; keep and borders of fields in close vegetation. Lime and fertilize as needed. <i>Hay and pasture:</i> Prepare firm apply lime and fertilizer.
Unit IIIe-3.—Moderately deep, very gently sloping, eroded soil; subsoil fine textured and moderately permeable. Shubuta fine sandy loam, eroded very gently sloping phase.	Corn, oats, winter and summer legumes.	Corn followed by oats; 2d year, crotalaria. Corn; 2d year, crotalaria followed by oats. Coastal bermudagrass for 2 years; suitable crop for 1 year.	<i>Crops:</i> Maintain complete disposal system of terraces; let; till on contour; keep and borders of fields in close vegetation. Lime and fertilize as needed. <i>Hay and pasture:</i> Prepare firm apply lime and fertilizer.

Unit IIIe-4.—Moderately deep, gently and very gently sloping, eroded soils; subsoil fine textured and moderately slowly permeable. Gilead loamy sand, eroded very gently sloping thick surface phase. Tifton sandy loam, eroded very gently sloping thin solum phase. Tifton sandy loam, gently sloping thin solum phase.	Corn, oats, winter and summer legumes.	Corn followed by oats; 2d year, crotalaria. Corn; 2d year, crotalaria followed by oats.	<i>Hay and pasture:</i> Prepare first year, apply lime and fertilizer as needed. <i>Crops:</i> Till on contour; keep and borders of fields in close vegetation. Lime and fertilizer as needed. <i>Hay and pasture:</i> Prepare first year, apply lime and fertilizer as needed.
Unit IIIe-5.—Deep, gently sloping soils; surface soil coarse textured; subsoil moderately coarse textured; moderately low in moisture-holding capacity and fertility. Tifton loamy sand, gently sloping thick surface phase. Norfolk loamy sand, gently sloping thick surface phase.	Crops common to area, except cotton and perennial legumes; grasses.	Oats followed by crotalaria; 2d year, corn followed by blue lupine; 3d year, corn. Coastal bermudagrass for 2 years; suitable crop for 1 year.	<i>Crops:</i> Maintain complete disposal system of terraces and leaches; till on contour; keep and borders of fields in close vegetation. Lime and fertilizer as needed. <i>Hay and pasture:</i> Prepare first year, apply lime and fertilizer as needed.
Unit IIIw-1.—Imperfectly drained soils; subsoil coarse textured and rapidly permeable. Klej loamy sand, level phase. Klej loamy sand, very gently sloping phase.	Crops common to area, except cotton and peanuts.	Oats followed by lespedeza; 2d year, corn; 3d year, vegetables. Corn and crotalaria for 2 years; vegetables. Tobacco followed by oats and crotalaria for 2 years. Oats followed by lespedeza; 2d year, corn; 3d year, vegetables.	<i>Crops:</i> Drain soil by using a main ditch. Lime and fertilizer as needed. <i>Hay and pasture:</i> Prepare first year, apply lime and fertilizer as needed.
Unit IIIw-2.—Poorly drained, moderately permeable soil in very gently sloping, level, or depressed areas. Grady sandy loam.	Corn, oats, and lespedeza-----	Oats followed by lespedeza; 2d year, volunteer lespedeza; 3d year, corn.	<i>Crops:</i> Maintain complete disposal system, including lateral drains. <i>Hay and pasture:</i> Prepare first year, apply lime and fertilizer as needed. Use one main drainage pasture.
Unit IIIw-5.—Somewhat poorly drained, moderately slowly to slowly permeable soil on stream terraces. Izagara loamy fine sand, thick surface phase.	Corn, oats, and lespedeza-----	Oats followed by lespedeza; 2d year, volunteer lespedeza; 3d year, corn.	<i>Crops:</i> Drain, using at least a ditch. Lime and fertilizer as needed. <i>Hay and pasture:</i> Prepare first year, apply lime and fertilizer as needed.
Unit IIIs-1.—Deep, very gently sloping, moderately eroded soil; surface soil and subsoil coarse textured; low in moisture-holding capacity and fertility. Lakeland loamy sand, very gently sloping phase.	Crops common to area, except cotton.	Corn and crotalaria for 2 years; 3d year, runner peanuts followed by blue lupine. Corn and crotalaria; 2d year, oats and crotalaria; 3d year, peanuts followed by blue lupine.	<i>Crops:</i> Cultivate on contour; turnrows and borders of close-growing vegetation. Fertilize as needed. <i>Hay and pasture:</i> Prepare first year, apply lime and fertilizer as needed.
Unit IIIs-2.—Very deep, level and very gently sloping soils; surface soil and subsoil coarse textured; low in moisture-holding capacity and fertility. Lakeland sand, level phase. Lakeland sand, very gently sloping phase.	Crops common to area, except cotton.	Corn and crotalaria for 2 years; 3d year, runner peanuts followed by blue lupine. Corn and crotalaria; 2d year, oats and crotalaria; 3d year, runner peanuts followed by blue lupine.	<i>Crops:</i> Cultivate on contour; turnrows and borders of close-growing vegetation. Fertilize as needed. <i>Hay and pasture:</i> Prepare first year, apply lime and fertilizer as needed.
Unit IVe-3.—Moderately deep, gently sloping, eroded soil; subsoil fine textured and moderately permeable. Shubuta fine sandy loam, eroded gently sloping phase.	Crops suitable for rotations using a high percentage of cover.	Kudzu and corn. Oats and crotalaria. Coastal bermudagrass for 3 to 5 years, followed by cotton or corn.	<i>Crops:</i> Maintain complete disposal system of terraces and leaches; till on contour; stabilize and fertilize as needed. <i>Hay and pasture:</i> Prepare first year, apply lime and fertilizer as needed.

TABLE 2.—*Management of soils by capability units—Continued*

Capability units and soils	Suitable crops or cover	Suitable rotations	Management
Unit IVe-4.—Moderately deep, gently sloping, moderately eroded soils; subsoil fine textured and moderately eroded. Tifton sandy loam, eroded gently sloping thin solum phase. Gilead loamy sand, eroded gently sloping thick surface phase.	Crops suitable for rotation using a high percentage of cover.	Kudzu and corn. Oats and crotalaria. Coastal bermudagrass for 3 to 5 years, followed by cotton or corn.	<i>Crops:</i> Maintain complete posal system of terraces and till on contour; stabilize soil with lime and fertilizer. <i>Hay and pasture:</i> Prepare firm apply lime and fertilizer.
Unit IVs-1.—Deep, gently sloping, slightly eroded soils; surface soil and subsoil coarse textured; low in fertility and moisture-holding capacity. Lakeland loamy sand, gently sloping phase. Lakeand sand, gently sloping phase.	Oats, crotalaria, corn, blue lupine.	Oats and crotalaria. Corn and crotalaria, followed by oats and crotalaria for 2 years.	<i>Crops:</i> Till on contour; stabilize soil with lime and fertilizer as needed. <i>Hay and pasture:</i> Prepare firm apply fertilizer and lime; apply herbicide to control.
Unit Vw-2.—Poorly drained, level or very gently sloping soils; subsoil medium textured and moderately permeable. Rains loamy sand, level thick surface phase. Rains loamy sand, very gently sloping thick surface phase. Myatt fine sandy loam. Alluvial soils.	Lowland pasture; trees.	None.	<i>Pasture:</i> Clear soil; apply 1 ton of ground limestone per acre; good seedbed; apply 600 pounds of 4-12-12, or equivalent, per acre; seed with bahiagrass and Kober lespedeza in spring; seed 3 pounds of white clover or Ladino clover per acre in fall as needed. ¹ <i>Woodland:</i> Use slash pine planting; remove diseased or formed trees; improve stand by thinning; thin when needed for fires. ²
Unit Vw-4.—Imperfectly to poorly drained soil that contains organic hardpan. Leon sand.	Pine trees.	None.	<i>Woodland:</i> Use slash pine planting; remove diseased or formed trees; improve stand by thinning; thin when needed for fires. ²
Unit VIe-2.—Shallow, gently and very gently sloping soils; surface soil medium textured; subsoil fine textured and slowly permeable. Sunsweet soils, eroded gently sloping phases. Susquehanna sandy loam, very gently sloping phase. Susquehanna sandy loam, gently sloping phase.	Upland pasture, perennial legumes, trees.	None.	<i>Pasture:</i> Sprig with coastal grass or seed with bahiagrass and crimson clover for winter use 1 ton of ground limestone to 800 pounds of 4-12-12 during land preparation; use seedbed; mow as needed; allow grazing; apply fertilizer annually with nitrogen annually. ³ <i>Woodland:</i> Use slash pine planting; remove diseased or formed trees; improve stand by thinning; thin when needed for fires. ²
Unit VIIe-2.—Shallow, eroded, sloping soils; subsoil medium and light textured and slowly permeable. Sunsweet soils, eroded sloping phases.	Pine trees, grass, kudzu.	None.	<i>Pasture and hay:</i> Sprig with bermudagrass; use crimson winter grazing; use 1 ton of limestone and 600 to 800 4-12-12, or its equivalent during land preparation; use seedbed; mow as needed; allow grazing; apply fertilizer dress with nitrogen annually. <i>Woodland:</i> If possible, remove desirable hardwoods by using so that pines can grow; con-
Unit VIIw-1.—Wet swampy land likely to be flooded frequently. Swamp.	Trees.	None.	

Unit VII-1.—Very deep sand on gentle slopes; little or no erosion. Kershaw sand, very gently sloping phase.	Trees, upland pasture-----	None-----	<p><i>Woodland:</i> If possible, remove desirable hardwoods by using so that pines can grow; plantings of slash pine and longleaf where needed; control fires.</p> <p><i>Pasture:</i> Clear scrub oak; 2 pounds of 4-12-12 or equivalent sprig suwanee bermudagrass; pensacola bahiagrass; apply fertilizers at least twice growing season.¹</p> <p><i>Hay:</i> Sprig suwanee bermudagrass manage as for pasture.</p>
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¹ STEVENS, J. L., PASTURES OF THE COASTAL PLAIN OF GEORGIA. Ga. Coastal Plain Exp. Sta., Bul. 27, 52 pp., illus. (Revised 1952).

² HALIS, L. K., SOUTHWELL, B. L., and KNOX, F. E., BURNING AND GRAZING IN COASTAL PLAIN FORESTS. Ga. Coastal Plain Exp. Sta. Bul. 51, 33 pp., illus. 1952.

³ BURTON, G. W., COASTAL BERMUDA GRASS. Ga. Coastal Plain Exp. Sta., pp., illus. 1954.

⁴ Less than 0.1 percent.

suggestions for management for each capability unit were developed jointly by soil conservationists, extension workers, and soil scientists of the experiment stations. Farmers contributed the results of their experience.

Estimated yields

Table 3 gives estimates of the yields that can be expected from each soil of the county under two levels of management. In columns A are yields to be expected under common management; in columns B are yields to be expected under the best known management. Table 3 also shows the value of pastures under two levels of management, in terms of gains in pounds of beef, and also the site indexes for longleaf pine and slash pine. The site index is the height in feet that a tree is expected to reach in 50 years in a well-stocked stand. The gains in weight of beef cattle are those that are expected per acre of pasture for 1 year of grazing. For example, a gain of 300 pounds by one or more animals per acre in a year would be a beef gain of 300 pounds. The estimates in table 3 are based on published and unpublished data of the Georgia Coastal Plain Experiment Station, information from soil conservationists and local farmers, and agricultural censuses.¹

Average yields of crops have steadily increased in Tift County. Since 1930, the average yield of corn has increased from 14 bushels to 22 bushels per acre. Before 1940, yields of tobacco in favorable years were less than 1,000 pounds per acre; yields of 1,500 pounds are now common in good years.

Accurate figures for yields of pasture under common management are difficult to obtain because of the great variation in pasture management and the differences in grades of cattle. In addition, the market price of cattle and the financial need of the farmer may determine the time that cattle will be sold. Pastures, therefore, are often empty when they are most productive.

The estimates of site indexes for slash pine and longleaf pine are based on a study made by the Soil Conservation Service.

Information on management of soils for various crops and grasses can be obtained from the county agent, the work unit leader of the Soil Conservation Service, or the Georgia Coastal Plain Experiment Station.

Estimates of results under the best current pasture management were obtained largely from experiments in growing different kinds of grasses, and are based on the assumption that all available feed will be used.²

Soil Series

Table 4 gives the important characteristics of the soil series of Tift County. All the upland and lowland soils in the county were derived from unconsolidated beds of marine sands, sandy clays, and clays. The Grady soils developed in depressions from unconsolidated beds of marine sandy loams and clays, to which slight amounts of impure limestone had been added in places. The soils of the stream terraces, or second bottoms, were derived from alluvium washed from Tifton, Norfolk, Susquehanna, and

other upland soils. Included in the group of terrace soils are Huckabee, Izagora, and Myatt soils. Swamp and Alluvial soils were formed along creek and river bottoms from materials washed from higher areas.

Almost 58 percent of the soils of the county are moderately well drained to excessively drained. Well drained or moderately well drained soils are of the Tifton, Norfolk, Gilead, Sunsweet, Huckabee, and Shubuta series. The Kershaw soils are excessively drained, and the Lakeland soils are somewhat excessively drained.

The Susquehanna, Lynchburg, Izagora, and Klej soils are moderately well to imperfectly drained. They compose about 3 percent of the county. The poorly drained and very poorly drained soils that are not recommended for cultivation make up about 39 percent of the county.

The Tifton soils generally occupy the ridgetops and very gentle slopes throughout the county. Susquehanna, Sunsweet, Gilead, and Shubuta soils occur mostly in the northeastern part of the county; they are undulating or gently to strongly sloping. Norfolk soils are in the northern and eastern parts of the county, mostly in nearly level or very gently sloping areas. Kershaw and Lakeland soils are nearly level, undulating, or very gently sloping. They are sandy and occur on broad flats or on the eastern sides of large streams.

The nearly level Huckabee and Izagora soils occur on the stream terraces or second bottoms; the Huckabee soils are on the higher sandy areas; and the Izagora soils are on the slightly lower moderately well drained areas. Myatt soils occur on the level poorly drained areas of the stream terraces.

A normal pattern of soil position and association consists of Tifton or Norfolk soils on the upland areas, Lynchburg or Klej soils down the slope on moderately low flats, and Rains soils on the bottoms. Grady soils occur in oval sinks within areas of Tifton and Norfolk soils. Leon soils are on low flats, slightly higher than Rains soils.

Descriptions of Soils

In the following pages the soil series, types, and phases and the miscellaneous land types in Tift County are described in detail. The location and distribution of each soil and land type are shown on the soil map bound at the back of this report, and the approximate acreage and proportionate extent of each are given in table 5.

Alluvial soils

Alluvial soils (A).—These soils occur throughout the county along the streams and in depressions. The vegetation is mainly hardwood trees interspersed with pine, poplar, bay, beech, and gum. Some areas of Alluvial soils are used for hay meadows and pasture. These soils are in capability unit Vw-2.

Borrow pit

Borrow pit (B).—This mapping unit consists of areas where the soil has been removed for construction purposes or by severe erosion. In some of the eroded spots, most of the A horizon and, in places, some of the B horizon have been lost. These areas are generally replanted to pine trees; in some areas pines may reseed naturally.

¹ GEORGIA COASTAL PLAIN EXPERIMENT STATION ANNUAL REPORTS, 1940-50. 11 vols.

² BURTON, G. W. COASTAL BERMUDA GRASS. Ga. Exp. Sta. Bul. N. S. 2, 31 pp., illus. 1954.

TABLE 3.—*Estimated acre yields of principal crops, gains in beef per acre of pasture, and site indexes for longleaf pine*
 [Yields in columns A are to be expected under common management; yields in columns B, under best known management, not including irrigation; the dash indicates crop is not commonly grown on the soil specified]

Soils	Corn			Cotton (lint)		Peanuts		Tobacco		Oats		Hay		Pasture (
	A		B	A	B	A	B	A	B	A	B	A	B	Coastal bermuda-grass	Coastal bermuda-grass
	Bu.		Bu.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Bu.	Bu.	Tons	Tons	Lb.	Lb.
Alluvial soils															
Gilead loamy sand:															
Very gently sloping thick surface phase.	15	45		200	350	650	1,800	1,000	1,600	18	45	3½	8	125	550
Eroded very gently sloping thick surface phase.	10	35		150	300	550	1,600	900	1,400	15	35	3	7	100	450
Eroded gently sloping thick surface phase.	10			125		450		700		12	30	2½	5	100	300
Grady sandy loam	20	50								15	45	3	6	125	400
Huckabee loamy fine sand	20	75		200	400	700	2,000	1,100	2,000	20	50	4	8	150	600
Izagara loamy sand, thick surface phase.	20	60		150		400		1,000	2,000	15	45	3	7	125	500
Kershaw sand, very gently sloping phase.	5	20						1,000	2,000			1	4	50	250
Kleij loamy sand:															
Level phase.	20	70		125		500		1,100	2,200	20	50	3	7	125	450
Very gently sloping phase.	20	70		125		500		1,100	2,200	20	50	3	7	125	450
Lakeland loamy sand:															
Level phase.	20	60		150	300	800	2,000	1,200	1,800	18	45	3	6	125	375
Very gently sloping phase.	20	60		150	300	700	1,800	1,000	1,600	18	45	3	5	125	350
Gently sloping phase.	15	50		100	250	500	1,500	900	1,200	15	35	2	4	100	300
Lakeland sand:															
Level phase.	10	25		100	250	500	1,000	600	1,000	15	30	2	4	100	300
Very gently sloping phase.	10	25		100	250	500	1,000	600	1,000	15	30	2	4	100	300
Gently sloping phase.	8	20		75	200	300	800	400	700	10	20	1	3	75	250
Leon sand.	8	20						400	800	15	25				
Lynchburg loamy sand:															
Level phase.	25	80		150		500		1,300	2,400	20	50	3	7	125	500
Very gently sloping phase.	30	80		150		500		1,300	2,400	20	50	3	7	125	500
Myatt fine sandy loam.															
Norfolk loamy sand:															
Level phase.	30	80		200	450	700	2,000	1,200	2,000	20	50	4	8	150	600
Very gently sloping phase.	25	75		200	450	650	2,000	1,100	2,000	20	50	4	8	150	600
Eroded very gently sloping phase.	20	50		150	350	600	1,800	900	1,800	18	50	3	7	125	500
Eroded gently sloping phase.	15	40		150	300	500	1,500	700	1,500	15	45	2	6	100	350
Level thick surface phase.	20	50		175	400	650	2,000	1,100	2,000	20	40	4	8	150	550
Very gently sloping thick surface phase.	18	45		160	375	600	1,800	1,800	2,000	20	40	3½	7	150	500
Eroded very gently sloping thick surface phase.															
Gently sloping thick surface phase.	15	35		125	300	500	1,500	800	1,600	18	35	3	7	125	450
Rains loamy sand:	15	35		125	300	500	1,500	800	1,600	18	35	3	7	125	450
Level thick surface phase.															
Very gently sloping thick surface phase.															
Shubuta fine sandy loam:															
Eroded very gently sloping phase.	15	45		150	300	550	1,600	900	1,400	15	35	3	7	125	450
Eroded gently sloping phase.	10			125		350		500		10	30	2½	5	100	300
Sunsweet soils:															
Eroded gently sloping phases.				150	300	200				10	35	2½	6	100	350
Eroded sloping phases.										5		1½	4	75	250
Susquehanna sandy loam:															
Very gently sloping phase.	15	35		150	300	600	1,200	600	1,200	15	40	3	8	125	500
Gently sloping phase.	10					400	1,000			10	35	2	6	100	400

TABLE 3.—*Estimated acre yields of principal crops, gains in beef per acre of pasture, and site indexes for longleaf pine*

Soils	Corn		Cotton (lint)		Peanuts		Tobacco		Oats		Hay		Pasture
	A	B	A	B	A	B	A	B	A	B	A	B	Coastal bermuda- grass
		Bu.	Bu.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Bu.	Tons	Tons	Lb.
Tifton sandy loam:	30	75	300	600	750	2,000	1,100	2,000	20	50	3	9	650
Level phase-----	30	75	300	600	700	2,000	1,100	2,000	20	50	4	9	650
Very gently sloping phase-----	25	70	200	450	600	1,800	900	1,800	20	50	3 1/2	8	125
Eroded very gently sloping phase-----	25	70	200	450	600	1,800	900	1,800	20	50	3 1/2	8	125
Gently sloping phase-----	12	40	125	300	400	1,200	-----	-----	15	25	2 1/2	6	100
Eroded gently sloping phase-----	20	50	250	500	700	2,000	1,000	1,800	20	45	2	8	150
Very gently sloping thin solum phase-----	15	45	200	450	650	1,800	900	1,600	18	40	3	7	125
Eroded very gently sloping thin solum phase-----	15	45	200	450	600	1,600	900	1,600	18	35	3 1/2	7	150
Gently sloping thin solum phase-----	10	35	150	400	550	1,400	800	1,500	12	30	3	6	125
Tifton loamy sand:													400
Level thick surface phase-----	20	75	200	400	700	2,000	1,100	2,000	20	50	4	8	600
Very gently sloping thick surface phase-----	20	75	200	400	650	2,000	1,100	2,000	20	50	3 1/2	8	135
Gently sloping thick surface phase-----	15	60	150	300	550	1,600	900	1,600	15	35	3	7	125
Tifton loamy coarse sand, very gently sloping phase-----	18	70	200	400	600	1,800	1,100	2,000	18	45	3	7	450

Gilead series

The Gilead soils are well-drained Red-Yellow Podzolic soils that developed from beds of marine sands and clays. They are prominent on the very gentle to strong slopes in the northwestern part of the county. The native vegetation was longleaf pine with an understory of wiregrass. Scrub oaks are common on the coarser textured soils of the series.

The Gilead soils are associated with the soils of the Norfolk, Susquehanna, Rains, Shubuta, and Lakeland series. They are shallower than the Norfolk soils and deeper than the Susquehanna soils over the underlying clay or sandy clay. In places where the Gilead soils are deep and the subsoil is more friable than normal, they are similar to the Norfolk soils; where the soils are shallow and the subsoil is less friable, they are similar to the Susquehanna soils.

The Gilead soils range from sands to sandy loams. Loamy sands predominate, and only loamy sands are mapped in Tift County. In many places small pebbles of quartz are scattered over the surface. The surface soil is 6 to 30 inches thick. In some eroded areas the subsoil is near the surface. The texture of the subsoil ranges from sandy clay loam to heavy sandy loam. Permeability is moderate to moderately rapid in the upper subsoil and slow in the lower subsoil. Internal drainage is moderate.

Gilead loamy sand, very gently sloping thick surface phase (Ga).—A representative profile is as follows:

- A₁ 0 to 3 inches, dark-gray (5Y 4/1) loose loamy sand; structureless; strongly acid; 2 to 5 inches thick.
- A₂ 3 to 20 inches, olive-gray (5Y 5/2) loose loamy sand; structureless; strongly acid; 12 to 25 inches thick.
- B₂ 20 to 24 inches, pale-olive (5Y 6/4) friable sandy clay loam; moderate medium subangular blocky structure; strongly acid; 4 to 6 inches thick.
- C₁ 24 to 30 inches, yellowish-brown (10YR 5/8) firm sandy clay; many, medium, distinct mottles of red (5YR 4/8) and gray (7.5YR 6/0); moderate medium angular blocky structure; strongly acid; 5 to 7 inches thick.
- C₂ 30 to 40 inches, gray (7.5YR 6/0) firm sandy clay; many distinct mottles of yellowish brown (10YR 5/8) and yellowish red (5YR 4/8); moderate medium angular blocky structure; strongly acid.

Relief is nearly level or very gently sloping. In some places the surface layer is sand, in others it is sandy loam. This soil is used mostly for timber, but some areas are used for corn, cotton, peanuts, and coastal bermudagrass. This soil is in capability unit IIe-4.

Gilead loamy sand, eroded very gently sloping thick surface phase (GaB2).—This soil is similar to Gilead loamy sand, very gently sloping thick surface phase, except that it has 2 to 5 percent slopes, a thinner topsoil, and a few shallow gullies. Because of the slope and the compact subsoil, runoff is rapid on this soil and erosion is a hazard. This soil should be terraced, cultivated on the contour, and kept in close-growing vegetation much of the time. It is in capability unit IIc-4.

Gilead loamy sand, eroded gently sloping thick surface phase (GaC2).—This soil is similar to Gilead loamy sand, very gently sloping thick surface phase, except that it has 5 to 8 percent slopes, a thinner topsoil, and a few shallow gullies. Runoff is more rapid on this soil, and erosion is a serious hazard. This soil should be terraced and kept in close-growing plants most of the time. It is mostly used for pasture or for pine trees. It is in capability unit IVe-4.

Grady series

The Grady series consists of very dark gray wet soils that formed in upland depressions or in nearly level areas on thin beds of acid sandy loam and clay. These soils belong to the Low-Humic Gley great soil group. The depressions were formed by the dropping of the surface in spots where the underlying limestone had dissolved. These soils are poorly or very poorly drained. Internal drainage is slow. The only natural outlets for water are underground, and water commonly stands ponded for long periods. Tupelo gum, cypress, live oak, and magnolia grow in the depressions, and longleaf pine and scattered slash pine grow on the outer rims. Sandy loam and fine sandy loam are the principal types. The only mapping unit in Tift County is Grady sandy loam, which occurs in depressions within areas of Tifton and Norfolk soils.

Grady sandy loam (Gr).—This soil occurs in nearly level areas or in depressions that generally have slopes of less than 2 percent. A representative profile is as follows:

- A 0 to 6 inches, very dark gray (2.5YR 3/0) friable sandy loam; weak fine granular structure; strongly acid; 4 to 8 inches thick.
- B₁ 6 to 14 inches, grayish-brown (10YR 5/2) friable sandy clay loam; common, medium, faint mottles of yellowish brown (10YR 5/8); moderate fine subangular blocky structure; very strongly acid; 6 to 8 inches thick.
- B₂ 14 to 34 inches, light-gray (10YR 7/1) firm sandy clay; common, medium, distinct mottles of yellowish red (5YR 5/6); moderate medium angular blocky structure; very strongly acid; 12 to 20 inches thick.
- C 34 to 44 inches, light-gray (10YR 7/1) firm sandy clay or clay; common, medium, distinct mottles of yellowish brown (10YR 5/8) and yellowish red (5YR 5/6); moderate medium angular blocky structure; very strongly acid; several feet thick.

Areas of this soil that occur next to Tifton soils have a few iron concretions on the outer rim of the depressions. The texture grades from sandy loam on the outer rim to clay loam near the center of the depressions.

This soil is used mainly for forest. A small part is used for pasture. Truck crops are grown on the outer rim of the depressions. This soil is in capability unit IIIw-2.

Gullied land

Gullied land (Gu).—This miscellaneous land type consists of areas of Sunsweet and Tifton soils in which a pattern of gullies has been formed by accelerated erosion. The gullies are shallow in some places and have penetrated the compact parent material in others. The soil profile is destroyed except in small areas between gullies. Included in this mapping unit are large individual gullies and areas in which more than 75 percent is in gullies.

Gullied land has been damaged to the extent that it cannot be used for cultivated crops. The most feasible use for this land is forest.

Huckabee series

The Huckabee series consists of well-drained, coarse-textured, grayish Regosols that have some characteristics of Red-Yellow Podzolic soils. Huckabee soils have developed in deep sandy material on the nearly level stream terraces of the coastal plain. The parent material consisted of sediments washed from Norfolk, Lakeland, Tifton, and other acid soils of the coastal plain. Internal

TABLE 4.—*Important*
SOILS OF

Soil series	Topographic position	Dominant relief	Drainage class	Internal drainage	Parent material
Gilead.....	Undulating areas and gentle slopes.	Gently sloping.....	Good.....	Medium.....	Unconsolidated beds of marine sand and clay.
Kershaw.....	Near large streams.....	Level and very gently sloping.	Excessive.....	Very rapid....	Beds of marine sand.....
Lakeland.....	Broad flats.....	Nearly level to very gently sloping.	Somewhat excessive..	Rapid.....	Beds of marine sand.....
Norfolk.....	Upland areas at confluences of intermittent streams.	Very gently sloping..	Good.....	Medium.....	Unconsolidated beds of marine sand and clay.
Shubuta.....	Undulating areas.....	Gently sloping.....	Moderately good to good.	Medium to slow.	Unconsolidated beds of sand and clay.
Sunsweet.....	Gentle to strong slopes.....	Sloping.....	Good.....	Medium to slow.	Unconsolidated beds of marine sand and clay.
Susquehanna..	Level areas and gentle slopes.	Very gently sloping..	Imperfect.....	Very slow....	Unconsolidated beds of sand and clay.
Tifton.....	Ridgetops and strong slopes.	Very gently sloping..	Good.....	Medium.....	Unconsolidated beds of marine sand and clay.

SOILS OF THE STREAM

Huckabee.....	Terraces.....	Nearly level.....	Good to somewhat excessive.	Rapid.....	Old alluvium from Norfolk, Tifton, and other soils.
Izagora.....	Low terraces.....	Nearly level.....	Moderately good....	Medium.....	Old alluvium from Norfolk, Tifton, Susquehanna, and other soils.
Myatt.....	Low terraces.....	Nearly level.....	Poor.....	Slow to very slow.	Old alluvium from Norfolk, Tifton, Susquehanna, and other soils.

SOILS OF

Grady.....	Oval sinks.....	Nearly level.....	Poor.....	Slow.....	Beds of marine sand and clay..
Klej.....	Moderately low flats.....	Nearly level.....	Imperfect to moderately good.	Medium to slow.	Beds of marine sand.....
Leon.....	Flats.....	Level.....	Imperfect to poor....	Medium to slow.	Beds of marine sand and clay..
Lynchburg....	Moderately low flats.....	Nearly level.....	Moderately good to imperfect.	Medium to slow.	Unconsolidated beds of sand..
Rains.....	Drainageways in lowlands along creeks and branches of creeks.	Nearly level.....	Poor.....	Slow.....	Beds of marine sand and clay..

characteristics of soil series

THE UPLANDS

Color and structure of surface soil	Color, consistence, and texture of subsoil	Productivity	Present use
Dark-gray sandy loam and very dark grayish-brown loamy sand.	Yellowish-brown very friable sandy clay loam and yellowish-red friable fine sandy clay loam.	Fair.....	Mostly crops; some pasture; small acreage in forest.
Gray sand.....	Pale-brown or pale-yellow loose sand.	Poor.....	Mostly scrub oak.
Dark grayish-brown loamy sand..	Yellowish-brown loose loamy sand to sandy loam.	Fair.....	Mostly forest.
Gray loamy sand.....	Olive-yellow very friable sandy clay loam.	Good.....	Mostly crops.
Olive-gray fine sandy loam.....	Light olive-gray friable fine sandy clay loam.	Fair.....	About equal acreage in crops and forest; small acreage in pasture.
Dark grayish-brown sandy loam..	Mottled yellowish-red firm sandy clay loam.	Poor.....	Many areas idle; some in crops.
Dark-brown sandy loam.....	Highly mottled, reddish-brown, firm fine sandy clay loam to clay.	Fair to good for timber..	Mostly forest; small acreage in crops and pasture.
Dark-gray sandy loam and very dark grayish-brown loamy sand.	Yellowish-brown very friable sandy clay loam and yellowish-red friable sandy clay loam.	Good.....	Mostly crops; some pasture; small acreage in forest.

TERRACES OR SECOND BOTTOMS

Dark-gray loamy fine sand.....	Pale-yellow very friable loamy fine sand.	Fair.....	Mostly forest; some crops and pasture.
Dark olive-gray loamy fine sand..	Yellowish-brown and strong-brown, mottled with red, friable sandy clay loam.	Fair to good for timber..	Mostly forest; some pasture; small acreage in crops.
Dark grayish-brown fine sandy loam.	Gray friable fine sandy clay loam.	Poor for crops; good for timber.	Almost all forest.

THE LOWLANDS

Dark-gray loamy sand.....	Light-gray firm sandy clay mottled with yellowish red.	Poor for crops; good for timber.	Mostly forest; some pasture.
Dark-gray loamy sand.....	Pale-olive loose loamy sand mottled with light gray.	Fair.....	Mostly forest; some pasture and crops.
Black sand.....	Very dark brown cemented fine sand; hard when dry.	Poor.....	Mostly forest.
Very dark gray loamy sand.....	Pale-yellow friable sandy loam mottled with light gray.	Fair.....	Mostly forest; some pasture and crops.
Dark-gray loamy sand.....	Gray very friable sandy clay loam.	Poor for crops; good for timber.	Mostly forest.

TABLE 5.—*Approximate acreage and proportionate extent of the soils*

Soil	Acreage	Percent- age of county area
Alluvial soils.....	3, 505	2. 1
Borrow pit.....	18	(1)
Gilead loamy sand:		
Very gently sloping thick surface phase.....	1, 218	. 7
Eroded very gently sloping thick surface phase.....	324	. 2
Eroded gently sloping thick surface phase.....	714	. 4
Grady sandy loam.....	678	. 4
Gullied land.....	42	(1)
Huckabee loamy fine sand.....	159	. 1
Izagora loamy fine sand, thick surface phase.....	628	. 4
Kershaw sand, very gently sloping phase.....	102	. 1
Klej loamy sand:		
Level phase.....	470	. 3
Very gently sloping phase.....	1, 213	. 7
Lakeland loamy sand:		
Level phase.....	495	. 3
Very gently sloping phase.....	4, 359	2. 6
Gently sloping phase.....	430	. 3
Lakeland sand:		
Level phase.....	203	. 1
Very gently sloping phase.....	4, 614	2. 7
Gently sloping phase.....	755	. 4
Leon sand.....	173	. 1
Lynchburg loamy sand:		
Level phase.....	919	. 5
Very gently sloping phase.....	1, 699	1. 0
Myatt fine sandy loam.....	408	. 2
Norfolk loamy sand:		
Level phase.....	104	. 1
Very gently sloping phase.....	3, 083	1. 8
Eroded very gently sloping phase.....	442	. 3
Eroded gently sloping phase.....	214	. 1
Level thick surface phase.....	607	. 4
Very gently sloping thick surface phase.....	19, 906	11. 7
Eroded very gently sloping thick surface phase.....	348	. 2
Gently sloping thick surface phase.....	421	. 2
Rains loamy sand:		
Level thick surface phase.....	13, 558	8. 0
Very gently sloping thick surface phase.....	42, 308	24. 9
Shubuta fine sandy loam:		
Eroded very gently sloping phase.....	381	. 2
Eroded gently sloping phase.....	207	. 1
Sunsweet soils:		
Eroded gently sloping phases.....	700	. 4
Eroded sloping phases.....	98	(1)
Susquehanna sandy loam:		
Very gently sloping phase.....	107	. 1
Gently sloping phase.....	708	. 4
Swamp.....	6, 718	4. 0
Tifton sandy loam:		
Level phase.....	283	. 2
Very gently sloping phase.....	36, 413	21. 4
Eroded very gently sloping phase.....	6, 682	4. 0
Gently sloping phase.....	462	. 3
Eroded gently sloping phase.....	1, 875	1. 1
Very gently sloping thin solum phase.....	105	. 1
Eroded very gently sloping thin solum phase.....	422	. 2
Gently sloping thin solum phase.....	146	. 1
Eroded gently sloping thin solum phase.....	1, 255	. 7
Tifton loamy sand:		
Level thick surface phase.....	180	. 1
Very gently sloping thick surface phase.....	7, 847	4. 6
Gently sloping thick surface phase.....	890	. 5
Tifton loamy coarse sand, very gently sloping phase.....	300	. 2
Total.....	169, 896	100. 0

¹ Less than 0.1 percent.

drainage and infiltration are rapid, and permeability is rapid to very rapid. The native vegetation is longleaf pine and scrub oak and a sparse understory of wiregrass.

The Huckabee soils are associated with Kalmia, Izagora, Barth, and Myatt soils. The Kalmia and Barth soils are not mapped separately in Tift County. The Huckabee soils differ from the Kalmia soils in having 30 to 72 inches of yellow or yellowish-brown loamy sand or sand over finer textured material. They are better drained than the Izagora soils and have less fine material throughout the profile. The Huckabee soils resemble the Lakeland soils of the uplands. Only one member of the Huckabee series is mapped in Tift County.

Huckabee loamy fine sand (Ha).—This soil is nearly level. A representative profile is as follows:

- A₁ 0 to 5 inches, dark-gray (5Y 4/2) loose loamy fine sand; structureless; medium acid; 3 to 8 inches thick.
A₂ 5 to 13 inches, olive (5Y 5/3) loose loamy fine sand; structureless; medium acid; 6 to 10 inches thick.
A₃ 13 to 25 inches, pale-yellow (5Y 7/4) loose loamy fine sand; structureless; strongly acid; 15 to 20 inches thick.
B₂ 25 to 35 inches, yellow (5Y 8/6) loose loamy fine sand; structureless; strongly acid; 10 to 15 inches thick.
C 35 to 45 inches +, pale-yellow (5Y 8/3) loamy fine sand; common, medium, faint mottles of yellow (5Y 8/8); structureless; medium acid.

The depth of the loamy fine sand or sand overburden ranges from 30 to 60 inches. Included in this mapping unit are some areas of Huckabee soil that have a sand surface soil and small areas of Izagora and Kalmia soils.

This soil is moderately well suited to corn, oats, tobacco, and vegetables. Some areas are cultivated. This soil is in capability unit IIs-2.

Izagora series

The Izagora series consists of moderately well drained, coarse-textured, Red-Yellow Podzolic soils that have some characteristics of Low-Humic Gleys. These soils occur on second bottoms or on terraces near large streams. They developed from thin to thick beds of sandy alluvium over clayey alluvium. The sandy and clayey alluvium was washed from Norfolk, Gilead, and Susquehanna soils. Runoff and internal drainage are medium, and permeability is moderately slow. The native vegetation is longleaf pine and slash pine and an understory of wiregrass. Gallberry and other plants of the lowlands are also rather common.

Izagora soils are associated with Myatt and Huckabee soils and with Alluvial soils. They are better drained than the Myatt soils but not so well drained as the Huckabee. Only one member of the Izagora series is mapped in Tift County.

Izagora loamy fine sand, thick surface phase (Ia).—This soil is nearly level. A representative profile is as follows:

- A₁ 0 to 8 inches, dark olive-gray (5Y 3/2) very friable loamy fine sand; weak fine granular structure; medium acid; 3 to 10 inches thick.
A₂ 8 to 20 inches, dark grayish-brown (2.5Y 4/2) friable fine sandy loam; weak fine granular structure; strongly acid; 8 to 20 inches thick.
B₁ 20 to 22 inches, yellowish-brown (10YR 5/8) friable fine sandy clay loam; moderate medium subangular blocky structure; strongly acid; 2 to 6 inches thick.
B₂ 22 to 28 inches, strong-brown (7.5YR 5/6) friable sandy clay loam; common, medium, distinct mottles of red (2.5YR 4/8); moderate medium subangular blocky structure; strongly acid; 6 to 12 inches thick.

- C 28 to 38 inches, strong-brown (7.5YR 5/6) firm sandy clay; many, medium, distinct mottles of red (2.5YR 4/8) and white (5Y 8/2); strong medium angular blocky structure; strongly acid.

The surface layer is only 6 inches thick in some places and as much as 26 inches thick in others. The B horizon is thin; in some places it is friable sandy loam and in others slightly plastic sandy clay. The mottles are generally strong brown, red, and white; they begin at depths of 12 to 26 inches. Small areas of Kalmia, Leaf, Huckabee, and Myatt soils are included in the mapping unit. Kalmia and Leaf soils are not mapped separately in Tift County. This soil is in capability unit IIIw-5.

Kershaw series

The Kershaw series consists of deep grayish and brownish sand and coarse sand. These soils are Regosols. They generally occur on the east side of large streams. They contain only small amounts of organic matter, but the thin surface layer of sand is stained with organic matter. Kershaw soils are excessively drained; internal drainage is very rapid. The native vegetation is black-jack oak, turkey oak, post oak, and longleaf pine.

The Kershaw soils occur with Lakeland soils but have thicker beds of sand and coarse sand over fine sediments. Kershaw sand, very gently sloping phase, is the only Kershaw soil mapped in Tift County.

Kershaw sand, very gently sloping phase (K_a).—Figure 7 is a view of Kershaw sand, very gently sloping phase.

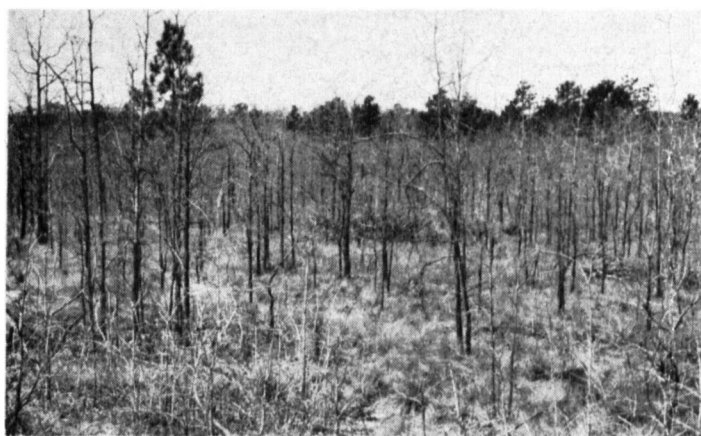


Figure 7.—Kershaw sand, very gently sloping phase. This soil is best suited to pines. It is in capability unit VIIs-1.

A representative profile is as follows:

- A₁ 0 to 3 inches, gray (10YR 5/0) very loose sand that contains very little organic matter; strongly acid; 3 to 6 inches thick.
 A₂ 3 to 18 inches, brown (10YR 5/3) very loose sand; structureless; strongly acid; 15 to 40 inches thick.
 A₃ 18 to 100 inches, pale-brown (10YR 6/3) or pale-yellow (2.5Y 7/4) very loose sand; structureless; very strongly acid; 10 to 20 feet thick.

The color of the A horizon ranges from white to light brownish gray. In a few places quartz particles occur on the surface. Included are areas of Kershaw coarse sand and some areas that are gently sloping. Kershaw sand is locally called "deep sand" or "post oak land."

Most of this soil is used for longleaf pine. Some areas are used for grazing, but the carrying capacity is low. This soil is in capability unit VIIs-1.

Klej series

The Klej series consists of grayish, imperfectly to moderately well drained Regosols that have some characteristics of Low-Humic Gleys. These soils developed from beds of sandy material, mostly in the southeastern section of the county at the edge of the lower coastal plain. Runoff is medium, and internal drainage is medium to slow. The native vegetation is slash pine, longleaf pine, and an understory of wiregrass and some shrubs, mostly gallberry.

Klej soils are associated with soils of the Rains, Lynchburg, Scranton, Lakeland, and Norfolk series. The Scranton soils are not mapped separately in Tift County. Klej soils are not so well drained as Lakeland loamy sand but are similar in texture. They are more sandy than Lynchburg soils.

Klej loamy sand, level phase (K_b).—The following is a representative profile:

- A_p 0 to 8 inches, dark-gray (5Y 4/1) nearly loose loamy sand; single-grain, or structureless; strongly acid; 6 to 9 inches thick.
 A₃ 8 to 13 inches, olive-gray (5Y 5/2) loose loamy sand; single-grain, or structureless; strongly acid; 4 to 6 inches thick.
 B₁ 13 to 22 inches, pale-olive (5Y 6/3) loose loamy sand; common, medium, distinct mottles of light gray (10YR 7/2); single-grain, or structureless; strongly acid; 10 to 14 inches thick.
 B₂ 22 to 34 inches, yellowish-brown (10YR 5/6) loose loamy sand; common, medium, distinct mottles of light gray (10YR 7/2); single-grain, or structureless; strongly acid; 10 to 14 inches thick.
 C 34 to 44 inches, pale-yellow (5Y 7/3) friable sandy loam; common, coarse, distinct mottles of yellowish brown (10YR 5/6); structureless; strongly acid; several feet thick.

Some areas of this soil are imperfectly drained. Where this soil is next to Lakeland soils it is better drained; where it is next to Plummer soils it is more poorly drained. The mottled layer normally occurs at depths between 14 and 22 inches, but depths to this layer range from 10 to 30 inches. Included are small areas of Lynchburg, Scranton, Plummer, and Lakeland soils.

Most of this soil is in slash pine, which is used to produce naval stores, pulpwood, and saw timber. Some areas are used for corn, tobacco, vegetables, and forage crops. If enough fertilizer is used, this soil is well suited to these crops. This soil is in capability unit IIIw-1.

Klej loamy sand, very gently sloping phase (K_bB₁).—This soil differs from Klej loamy sand, level phase, in having slopes of 2 to 5 percent. It is in capability unit IIIw-1.

Lakeland series

The Lakeland series consists of somewhat excessively drained, grayish-brown, sandy Regosols that occur on broad flats. These soils have some of the characteristics of Red-Yellow Podzolic soils. The native vegetation is slash pine, longleaf pine (fig. 8), blackjack oak, post oak, and turkey oak.

Lakeland soils are associated with soils of the Norfolk, Tifton, Kershaw, and Klej series. They differ from the Norfolk and Tifton soils in having loose sandy material that extends to depths of more than 30 inches. They are similar to Kershaw soils but are more distinctly colored and contain more fine material. Lakeland soils are better drained than Klej soils.



Figure 8.—Lakeland loamy sand, level phase. Trees are used to produce naval stores. Firebreak was made with a mule-drawn plow. This droughty soil is in capability unit IIs-2.

Lakeland loamy sand, level phase (La).—A view of this soil is shown in figure 8. A representative profile is as follows:

- A_p 0 to 8 inches, dark grayish-brown (2.5Y 4/2) loose loamy sand; structureless; strongly acid; 6 to 10 inches thick.
- A₃ 8 to 24 inches, light brownish-gray (2.5Y 6/2) loose loamy sand; structureless; medium acid; 16 to 22 inches thick.
- B₁ 24 to 36 inches, yellowish-brown (10YR 5/8) nearly loose loamy fine sand; weak fine crumb structure; very strongly acid; 12 to 15 inches thick.
- B₂ 36 to 40 inches, brownish-yellow (10YR 6/8) very friable sandy loam; moderate medium subangular blocky structure; very strongly acid; 4 to 6 inches thick.
- B₃ 40 to 45 inches, strong-brown (7.5YR 5/6) friable sandy clay loam; contains a few soft iron concretions; moderate medium subangular blocky structure; very strongly acid; 5 to 8 inches thick.
- C 45 to 66 inches +, strong-brown (7.5YR 5/6) friable fine sandy clay loam with many, medium, distinct mottles of yellow (10YR 8/6) and red (2.5YR 4/8); moderate medium subangular blocky structure; very strongly acid.

In many cultivated fields the A_p and A₃ horizons are so mixed that they cannot be identified. The texture of the B₂ horizon generally is sandy clay loam or sandy loam, but in places it is loamy sand. The color of the B₂ horizon ranges from yellowish brown to brownish yellow. In places the C and B₃ horizons contain a few iron concretions like those in Tifton sandy loam.

This soil is used for corn, tobacco, cotton, rye, oats, vetch, and watermelons. It is in capability unit IIs-2.

Lakeland loamy sand, very gently sloping phase (LaB1).—This soil differs from Lakeland loamy sand, level phase, in having slopes of 2 to 5 percent. Because of the stronger slopes, tillage should be on the contour and close-growing crops should be grown much of the time. This soil is in capability unit IIIs-1.

Lakeland loamy sand, gently sloping phase (LaC1).—This soil differs from Lakeland loamy sand, level phase, in having slopes of 5 to 8 percent. Runoff is a serious hazard. This soil should be tilled on the contour and kept in close-growing crops most of the time. It is in capability unit IVs-1.

Lakeland sand, level phase (Lb).—This soil is similar to Lakeland loamy sand, level phase, except that (1) the upper layers are coarser textured and deeper; (2) it is

more excessively drained; and (3) it is more closely associated with Kershaw soils. A representative profile is as follows:

- 0 to 6 inches, grayish-brown (10YR 5/2) loose sand; small amount of organic matter; structureless; strongly acid; 4 to 8 inches thick.
- 6 to 38 inches, light yellowish-brown (10YR 6/4) loose sand; structureless; strongly acid; 30 to 40 inches thick.
- 38 to 66 inches, very pale brown (10YR 7/4) loose sand; structureless; strongly acid; 24 inches to several feet thick.
- 66 to 76 inches, brownish-yellow (10YR 6/8) friable sandy clay loam with many, medium, prominent mottles of red (2.5YR 4/8) and yellowish red (5YR 5/8); strongly acid; several feet thick.

The layers of sand extend to a depth of at least 36 inches, and in places to depths between 5 and 8 feet. In most places sandy clay loam underlies the sand, but in some places the underlying layer is sandy loam. In some places concretions of iron occur in the two upper layers. Included are areas of Lakeland fine sand.

This soil is used for corn, tobacco, oats, and watermelons. It is in capability unit IIIs-2.

Lakeland sand, very gently sloping phase (LbB1).—This soil differs from Lakeland sand, level phase, in having slopes of 2 to 5 percent. Because of the stronger slopes, cultivated areas should be contoured. This soil is in capability unit IIIs-2.

Lakeland sand, gently sloping phase (LbC1).—This soil differs from Lakeland sand, level phase, in having slopes of 5 to 8 percent. Most of this soil is used for pines. If it is used for crops, it should be contoured and seeded to close-growing vegetation most of the time. This soil is in capability unit IVs-1.

Leon series

The Leon series consists of black or dark-gray Ground-Water Podzols that developed from beds of marine sands. Leon soils have a thin, dark-colored surface soil over a gray leached layer of sand, which in turn overlies a very dark brown organic pan. These soils occur inextensively on flats on the coastal plain in the southeastern part of the county. Drainage is imperfect or poor. When rainfall is heavy the water table is high, but at other times this sandy soil is droughty. Runoff is medium to rapid, and internal drainage is medium to slow. The native vegetation is longleaf pine, slash pine, and an understory of wiregrass and palmetto.

The Leon soils occur in close association with Lynchburg, Klej, and Lakeland soils. Only one member of the Leon series is mapped in Tift County.

Leon sand (Lc).—This soil is nearly level. A representative profile is as follows:

- A₁ 0 to 4 inches, black (2.5Y 2/0) loose sand; single-grain, or structureless; very strongly acid; 3 to 6 inches thick.
- A₂ 4 to 12 inches, gray (2.5Y 5/0) loose sand; common, medium, faint mottles of dark gray (2.5Y 4/0); structureless; very strongly acid; 6 to 10 inches.
- B₂ 12 to 18 inches, very dark brown (10YR 2/2) sand cemented with organic matter; normally hard and brittle when dry and firm to friable when moist; very strongly acid; 5 to 8 inches thick.
- B₃ 18 to 26 inches, very dark grayish-brown (10YR 3/2) nearly loose sand; many, medium, faint mottles of very dark brown (10YR 2/2); very strongly acid; 6 to 10 inches thick.
- C₁ 26 to 38 inches, dark grayish-brown (10YR 4/2) loose fine sand; many, medium, distinct mottles of olive gray (5Y 5/2); structureless; very strongly acid.

C₂ 38 to 50 inches, gray (5Y 5/1) friable sandy clay loam; many, medium, distinct mottles of strong brown (7.5YR 5/6); moderate medium subangular blocky structure; very strongly acid; 10 to 20 or more inches thick.

The A₂ layer is from 4 to 16 inches thick. The organic pan (B₂) is firm in some places and soft in others. In some places fine sand occurs under this layer, in others, fine sandy clay.

Included with this soil are areas of Leon fine sand and soils of the Ona, Klej, Plummer, and St. John series. The Ona, Plummer, and St. John soils and Leon fine sand are not mapped separately in Tift County.

This soil is used mainly for timber, from which pulp and naval stores are produced. The site index for timber is relatively low. Palmetto dominates the cutover areas because fire and drought prevent natural reseeding to pine. This soil is in capability unit Vw-4.

Lynchburg series

The Lynchburg soils are dark-gray Low-Humic Gleys that developed from beds of unconsolidated sandy clays and other sandy material. These soils occur throughout the county, but they are most extensive in the southeastern part. They are moderately well drained to somewhat poorly drained. Runoff is medium, and internal drainage is slow to medium. The native vegetation is longleaf pine, slash pine, and an understory of wiregrass and gallberry.

The Lynchburg soils occur in close association with the Rains soils of the lowland, and with the Klej, Norfolk, and Tifton soils of the uplands. They are more rapidly drained than the Rains soils and less rapidly drained than the Norfolk and Tifton soils. They are more clayey than the Klej soils.

Lynchburg loamy sand, level phase (Ld).—This soil is nearly level. A representative profile is as follows:

- A_p 0 to 9 inches, very dark gray (10YR 3/1) very friable loamy sand; weak fine crumb structure; strongly acid; 6 to 11 inches thick.
- A₃ 9 to 18 inches, grayish-brown (2.5Y 5/2) very friable light sandy loam; contains a few small, hard concretions of iron; weak fine crumb structure; strongly acid; 8 to 12 inches thick.
- B₂ 18 to 26 inches, pale-yellow (2.5Y 7/4) friable sandy loam; medium, distinct mottles of yellow (10YR 7/8); contains a few small, hard concretions of iron; weak fine subangular blocky structure; strongly acid; 6 to 12 inches thick.
- B₃ 26 to 33 inches, light-gray (10YR 7/2) friable light sandy clay loam; common, medium, distinct mottles of brownish yellow (10YR 6/6) and red (2.5YR 4/6); contains a few small, hard concretions of iron; moderate medium subangular blocky structure; strongly acid; 6 to 9 inches thick.
- C₁ 33 to 45 inches, yellowish-brown (10YR 5/6) friable light sandy clay loam; common, medium, distinct mottles of yellowish red (5YR 4/8) and light brownish gray (2.5Y 6/2); moderate medium subangular blocky structure; strongly acid; 8 to 12 inches thick.
- C₂ 45 to 55 inches, light-gray (10YR 7/2) strongly cemented very firm sandy clay loam; many, coarse, prominent mottles of red (10R 4/8), grayish brown (2.5Y 5/2), and yellowish brown (10YR 5/8); structureless; very strongly acid.

The color of the solum ranges from pale yellow to very dark gray. The depth to the mottled layer is as little as 8 inches in some places and as much as 30 inches in others. The texture of the B horizon ranges from fine sandy loam to sandy clay loam. In areas that border the upland,

near areas of Norfolk, Tifton, or Lakeland soils, this soil is more rapidly drained than in areas that border the lowland near the Rains soils. Included with this soil are some areas that have a sandy loam surface soil and small areas of Rains, Plummer, Klej, Lakeland, and Norfolk soils. Plummer soils are not mapped separately in Tift County.

Much of this soil is coming under cultivation. It is in demand for tobacco and some truck crops. It is well suited to corn and to lowland pasture. This soil needs to be drained to make it suitable for crops. It is in capability unit IIw-2.

Lynchburg loamy sand, very gently sloping phase (LdB1).—This soil differs from Lynchburg loamy sand, level phase, in having 2 to 5 percent slopes. It is in capability unit IIw-2.

Myatt series

The Myatt series consists of Low-Humic Gleys that occur on stream terraces in the coastal plain. These soils have developed from alluvium washed from Norfolk, Tifton, and other upland soils. Myatt soils are poorly drained. Runoff is slow, and internal drainage is very slow to slow. Water oak, bay, cypress, sweetgum, and pine grow on these soils.

Myatt soils occur with Huckabee and Izagora soils. They are more poorly drained than the Izagora soils. Only one member of the Myatt series is mapped in Tift County.

Myatt fine sandy loam (Ma).—This soil is nearly level. A representative profile is as follows:

- A₁ 0 to 4 inches, dark grayish-brown (10YR 4/2) friable fine sandy loam; weak fine granular structure; medium acid; 3 to 6 inches thick.
- A₂ 4 to 12 inches, gray (10YR 6/1) friable fine sandy loam; weak fine granular structure; strongly acid; 6 to 10 inches thick.
- B₁ 12 to 32 inches, gray (5YR 5/1) friable sandy clay loam; moderate medium subangular blocky structure; strongly acid; 10 to 20 inches thick.
- B₂ 32 to 38 inches, gray (7.5YR 6/0) friable sandy clay loam mottled with brownish yellow (10YR 6/8); moderate medium subangular blocky structure; strongly acid; 4 to 10 inches thick.
- C 38 inches +, gray (10YR 6/0) friable sandy loam mottled with yellowish brown (10YR 5/8); massive structure; strongly acid; several feet thick.

The texture of the B horizon ranges from sandy clay loam to silty clay loam. The color of the A₁ horizon ranges from very dark gray to grayish brown. Included with this soil are areas of Myatt sandy loam, which is not mapped in this county as a separate unit. Myatt fine sandy loam is in capability unit Vw-2.

Norfolk series

The Norfolk series consists of well-drained Red-Yellow Podzolic soils that developed from unconsolidated beds of sand and clay. These soils are nearly level to gently sloping. They are well drained to excessively drained. Internal drainage is medium. Permeability is moderate to moderately rapid. The native vegetation is longleaf pine and an understory of wiregrass and a few scrub oaks.

The Norfolk soils are associated with Tifton, Gilead, Lakeland, and Lynchburg soils. They are more sandy throughout the profile than Tifton sandy loam, more clayey than Lakeland loamy sand, and better drained than Lynchburg loamy sand.

Norfolk loamy sand, level phase (Na).—This soil is well drained. A representative profile is as follows:

- A₁ 0 to 3 inches, gray (5Y 5/1) nearly loose loamy sand; weak fine granular structure; strongly acid; 3 to 5 inches thick.
- A₂ 3 to 14 inches, pale-yellow (5Y 8/3) nearly loose loamy sand; weak fine granular structure; strongly acid; 10 to 13 inches thick.
- B₁ 14 to 18 inches, yellow (5Y 7/8) very friable fine sandy loam; weak fine subangular blocky structure; strongly acid; 3 to 6 inches thick.
- B₂ 18 to 40 inches, olive-yellow (2.5Y 6/6) friable sandy clay loam; moderate fine subangular blocky structure; strongly acid; 18 to 24 inches thick.
- C 40 inches+, olive-yellow (2.5Y 6/8) firm fine sandy clay loam; many prominent mottles of strong brown (7YR 5/8) and light gray (5Y 7/1); moderate medium subangular blocky structure; strongly acid; 20 to 30 inches thick.

The depth of the solum ranges from 30 to 50 inches. The A horizon is generally between 8 and 12 inches thick, but in some places it is only 5 inches thick and in other places it is as much as 18 inches thick. The subsoil ranges from sandy loam to light sandy clay. It is 15 to 36 inches thick. In places faint mottles occur in the B₂ horizon. Included with this soil are other Norfolk soils that have a surface-soil texture that ranges from sand to sandy loam. These soils are not mapped as separate units in this county.

This soil is well suited to tobacco and is in demand for this crop. It is also well suited to corn, peanuts, cotton, vegetables, and pecans. It is in capability unit I-1.

Norfolk loamy sand, very gently sloping phase (NaB1).—This soil differs from Norfolk loamy sand, level phase, in having 2 to 5 percent slopes. Runoff is more rapid than on the level phase, and erosion is a hazard. This soil should be terraced, tilled on the contour, and kept in close-growing crops much of the time. It is in capability unit IIe-1.

Norfolk loamy sand, eroded very gently sloping phase (NaB2).—This soil differs from Norfolk loamy sand, level phase, in having 2 to 5 percent slopes and, because of erosion, a thinner surface soil. It should be terraced, tilled on the contour, and kept in close-growing crops much of the time. This soil is in capability unit IIe-1.

Norfolk loamy sand, eroded gently sloping phase (NaC2).—This soil differs from Norfolk loamy sand, level phase, in having 5 to 8 percent slopes and, because of erosion, a thinner surface soil. Runoff is more rapid than on the level phase, and erosion is a serious hazard. This soil should be terraced and kept in close-growing crops much of the time. It is not generally used for tobacco or vegetables. It is in capability unit IIIe-1.

Norfolk loamy sand, level thick surface phase (Nb).—This soil is more extensive in Tift County than Norfolk loamy sand, level phase. It differs from Norfolk loamy sand, level phase, in having (1) an A horizon that is 18 to 30 inches thick, (2) more sandy material in the solum, and (3) less capacity to hold plant nutrients and moisture. This soil is well drained to somewhat excessively drained. Internal drainage and infiltration are rapid, and permeability is rapid to very rapid.

This soil occurs with Norfolk loamy sand, level phase; Tifton loamy sand, level thick surface phase; Lakeland loamy sand, level phase; and Lynchburg loamy sand, level phase. It contains more fine material than the Lakeland soil and is better drained than the Lynchburg soil. It

contains fewer concretions than Tifton loamy sand, level thick surface phase, and is slightly more sandy.

A representative profile is as follows:

- A_p 0 to 11 inches, dark grayish-brown (2.5Y 4/2) loose loamy sand; contains a few small, hard concretions of iron; weak fine crumb structure; strongly acid; 6 to 11 inches thick.
- A₃ 11 to 18 inches, light olive-brown (2.5Y 5/6) nearly loose loamy sand; contains a few small, hard concretions of iron; weak fine crumb structure; strongly acid; 6 to 10 inches thick.
- B₁ 18 to 23 inches, yellowish-brown (10YR 5/8) very friable sandy clay loam; weak fine subangular blocky structure; strongly acid; 4 to 6 inches thick.
- B₃ 23 to 44 inches, yellowish-brown (10YR 5/8) friable sandy clay loam; contains a few small, hard concretions of iron; moderate medium subangular blocky structure; strongly acid; 15 to 22 inches thick.
- C 44 to 57 inches, brownish-yellow (10YR 6/8) friable sandy clay loam; common, medium, prominent mottles of light red (2.5YR 6/6) and light gray (10YR 7/2); moderate medium subangular blocky structure; strongly acid; 12 to 20 inches thick, or more.

The thickness of the surface soil ranges from 18 to 30 inches. The texture of the subsoil ranges from sandy loam to light sandy clay. Included in this mapping unit are areas of Norfolk sands and small areas of Norfolk loamy sand, level phase, and Gilead, Tifton, and Lakeland soils.

Much of this soil is used for tobacco, vegetables, corn, peanuts, cotton, or other crops common to the area. It is not well suited to cotton. This soil is in capability unit IIs-1.

Norfolk loamy sand, very gently sloping thick surface phase (NbB1).—This soil differs from Norfolk loamy sand, level thick surface phase, in having 2 to 5 percent slopes. Because of the stronger slopes, runoff is more rapid and erosion is a hazard. This soil should be terraced, tilled on the contour, and kept in close-growing crops much of the time. It is in capability unit IIs-1.

Norfolk loamy sand, eroded very gently sloping thick surface phase (NbB2).—This soil differs from Norfolk loamy sand, level thick surface phase, in having 2 to 5 percent slopes and, as a result of erosion, a thinner surface soil. Because of the stronger slopes, runoff is more rapid and further erosion is a hazard. This soil should be terraced, tilled on the contour, and kept in close-growing crops much of the time. It is in capability unit IIs-1.

Norfolk loamy sand, gently sloping thick surface phase (NbC1).—This soil differs from Norfolk loamy sand, level thick surface phase, in having 5 to 8 percent slopes. Because of the stronger slopes, runoff is more rapid and erosion is a serious hazard. This soil should be terraced and kept in close-growing vegetation much of the time. It is in capability unit IIIe-5.

Rains series

The grayish, coarse-textured Rains soils are Low-Humic Gleys that have formed from thick beds of sandy clay loam and sandy loam in the coastal plain. They are well distributed in Tift County. These soils are poorly to very poorly drained and are ponded in some places. There is little or no runoff, and internal drainage is very slow. The vegetation is tupelo, gum, cypress, pond pine, slash pine, water oak, live oak, gallberry, and myrtle. Locally, Rains soils are called "pitcher-plant land" or "trumpet land."

Rains soils are closely associated with Lynchburg and Klej soils. They are more poorly drained than the soils of either of these series.

Rains loamy sand, level thick surface phase (Ra).—A view of this nearly level soil is shown in figure 9.

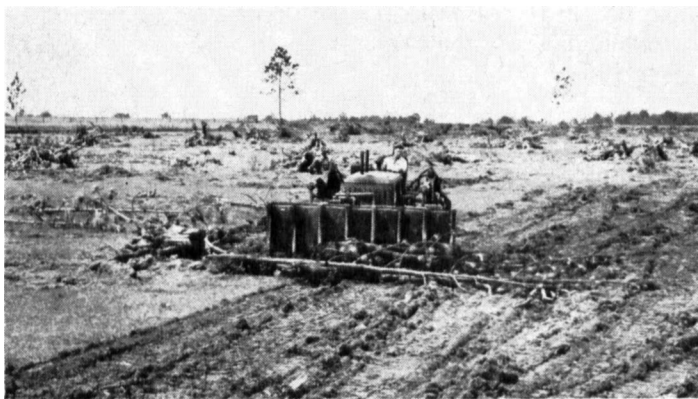


Figure 9.—Rains loamy sand, level thick surface phase. This area is being cleared and stumped and will be seeded to pasture. This soil is in capability unit Vw-2.

A representative profile is as follows:

- A₁ 0 to 4 inches, dark-gray (7.5YR 4/0) very friable loamy sand; weak fine crumb structure; contains a small amount of organic matter and some fine roots; strongly acid; 3 to 6 inches thick.
- A₂ 4 to 20 inches, light brownish-gray (10YR 6/2) nearly loose loamy sand; common, distinct mottles of yellowish red (5YR 4/8); weak fine crumb structure; strongly acid; 16 to 24 inches thick.
- B 20 to 30 inches, light-gray (10YR 7/1) very friable sandy loam; common, medium, distinct mottles of yellowish red (5YR 5/8); moderate medium granular structure; strongly acid; 10 to 15 inches thick.
- C 30 to 40 inches, light-gray (10YR 7/1) friable fine sandy loam; common, medium, distinct mottles of yellowish red (5YR 5/8); moderate medium subangular blocky structure; strongly acid; several feet thick.

In many cultivated areas, the A₁ and A₂ horizons are so intermixed that they have lost their identity. The color of the surface layer ranges from very dark gray to gray. In some areas, the B and C horizons are only slightly mottled. The texture of the B horizon ranges from sandy loam to sandy clay loam. Included in the mapping unit are areas of Rains soils that have a surface soil of sandy loam or fine sandy loam.

This soil is used mainly for forest. Cleared areas are in permanent pasture or are planted to oats or vegetables. Drainage is needed to make the soil suitable for cultivation. This soil is in capability unit Vw-2.

Rains loamy sand, very gently sloping thick surface phase (RaB1).—This soil differs from Rains loamy sand, level thick surface phase, in having 2 to 5 percent slopes. It is in capability unit Vw-2.

Shubuta series

The Shubuta series consists of moderately well drained to well drained Red-Yellow Podzolic soils that developed from beds of marine sands and clays. The soils occur mostly in the middle of the northeastern section of the county; smaller acreages occur in the northwestern section. Runoff is rapid, and internal drainage is medium to slow. Permeability is moderate to moderately slow. The native

vegetation is longleaf pine, an understory of wiregrass, and a few scrub oaks.

Shubuta fine sandy loam, eroded very gently sloping phase (SaB2).—A representative profile is as follows:

- A₁ 0 to 6 inches, olive-gray (5Y 5/2) very friable fine sandy loam; weak fine granular structure; strongly acid; 3 to 7 inches thick.
- A₂ 6 to 10 inches, pale-yellow (5Y 7/3) very friable fine sandy loam; weak fine granular structure; strongly acid; 4 to 10 inches thick.
- B 10 to 15 inches, light olive-brown (2.5Y 5/6) friable fine sandy clay loam; moderate medium subangular blocky structure; strongly acid; 2 to 20 inches thick.
- C 15 inches+, light olive-brown (2.5Y 5/6) firm sandy clay; many, medium, prominent mottles of white (2.5Y 8/0) and dark red (10R 3/6); strong moderate subangular blocky structure; strongly acid; several feet thick.

The B horizon ranges in thickness from 2 to 20 inches. Included in this mapping unit are some areas of Shubuta soil that have a surface layer of sand. Also included are small areas of Susquehanna, Gilead, Norfolk, and Lake-land soils.

Most of this soil is in pine trees. Some areas are planted to corn, cotton, oats, peanuts, and tobacco. This soil is in capability unit IIIe-3.

Shubuta fine sandy loam, eroded gently sloping phase (SaC2).—This soil differs from Shubuta fine sandy loam, eroded very gently sloping phase, in having 5 to 8 percent slopes. Because of the stronger slopes, runoff is more rapid and further erosion is a serious hazard. This soil should be kept in close-growing plants most of the time. It is in capability unit IVe-3.

Sunsweet series

The Sunsweet soils are shallow, well-drained, brownish Regosols. They occur on knolls or slopes where soil development has been retarded. They have no B horizon. Internal drainage is medium to slow. Infiltration is low, and permeability is moderately slow. The native vegetation is longleaf pine and an understory of wiregrass.

The Sunsweet soils are closely associated with Tifton, Norfolk, Shubuta, and Rains soils. Concretions of iron are very numerous on the surface but are less numerous throughout the profile than in Tifton sandy loam.

Sunsweet soils, eroded gently sloping phases (SbC2).—A representative profile is as follows:

- A 0 to 8 inches, dark grayish-brown (2.5Y 4/2) loose loamy coarse sand; many small, hard, rounded concretions of iron; structureless; strongly acid; 4 to 10 inches thick.
- C 8 inches+, yellow (10YR 8/6) and light-gray (10YR 7/1) firm sandy loam or sandy clay loam, reticulately mottled with yellowish red (5YR 4/8); mottles are many, coarse, and prominent; moderate medium subangular blocky structure; contains medium to coarse sand particles; strongly acid; several feet thick.

This mapping unit varies mostly in the degree of induration of the C horizon, or substratum. Some areas of Sunsweet soils contain large quantities of coarse particles, mostly quartz, silica, or silica cemented with iron. In these areas the soils are rapidly permeable.

Surface-soil textures range from loamy sand to sandy loam. Some areas are sloping or strongly sloping.

These soils are best suited to pine trees, pasture grasses, kudzu, or other permanent plants. They are very likely to erode. They are in capability unit VIe-2.

Sunsweet soils, eroded sloping phases (SbD2).—This soil differs from Sunsweet soils, eroded gently sloping

phases, in having 8 to 12 percent slopes. Because of the stronger slopes, runoff is more rapid and erosion is a greater hazard. These soils should be used for pine trees. They are in capability unit VIIc-2.

Susquehanna series

The Susquehanna series consists of brownish, moderately well drained to imperfectly drained Regosols that developed from beds of marine sand and clay. The B horizon is lacking or very weakly developed. They occur in the northeastern and northwestern parts of the county. Runoff is medium to rapid, depending on the slope. Internal drainage and permeability are slow. The native vegetation is longleaf pine and an understory of wiregrass.

Susquehanna soils are closely associated with soils of the Gilead, Shubuta, Norfolk, Lakeland, and Rains series. They are similar to Shubuta soils except that they are shallower and more clayey and have no B horizon.

Susquehanna sandy loam, very gently sloping phase (ScB1).—A representative profile is as follows:

- A₁ 0 to 5 inches, dark-brown (10YR 4/3) very friable sandy loam; weak fine granular structure; medium acid; 3 to 5 inches thick.
- A₂ 5 to 8 inches, brown (10YR 5/3) loose loamy fine sand; weak fine granular structure; very strongly acid; 3 to 12 inches thick.
- C 8 inches+, reddish-brown (2.5YR 5/4) and gray (2.5Y 6/0) firm clay; many, coarse, prominent mottles of red (2.5Y 4/5); strong coarse angular blocky structure; very strongly acid; several feet thick.

In some places there is an incipient B horizon; the soil in such places is similar to Shubuta fine sandy loam. Normally the surface soil is 8 to 10 inches thick. Included are areas of fine sandy loam or loamy sand, and a few areas that have a surface soil of coarse to medium sand as much as 30 inches thick. Where the surface soil is thick to very thick, this soil is similar to Lakeland sand. Included in the mapping unit are small areas of Shubuta, Gilead, and Lakeland soils.

This soil is used mainly for growing pine for timber. It is moderately well suited to growing forage. Some of it is planted to corn or peanuts. This soil is in capability unit VIe-2.

Susquehanna sandy loam, gently sloping phase (ScC1).—This soil differs from Susquehanna sandy loam, very gently sloping phase, in having 5 to 8 percent slopes. It is not suited to cultivation. It is in capability unit VIe-2.

Swamp

Swamp (Sw).—This mapping unit consists of undifferentiated soils that occur along streams. Many areas are under water for long periods. The vegetation consists principally of hardwoods, cypress, myrtle, and fern. Slash pine grows on islands within areas of Swamp. This mapping unit is in capability unit VIIw-1.

Tifton series

The Tifton series consists of well drained to somewhat excessively drained Red-Yellow Podzolic soils that formed in the uplands from beds of marine sand and clay. These soils have some characteristics of Ground-Water Laterites. The native vegetation was longleaf pine and an understory of wiregrass. A few scrub oaks grow on the thick surface phases of Tifton loamy sand.

Many rounded concretions of silica cemented with iron oxide are scattered on the surface and through these soils. The concretions are $\frac{1}{8}$ to $\frac{1}{2}$ inch in diameter.

The Tifton soils are associated with Rains and Norfolk soils. They are browner and finer textured than the Norfolk soils and contain more pebbles. Locally, Tifton soils are called "pebbly land" or "pimply land."

Tifton sandy loam, level phase (Tc).—This soil is well drained; runoff and internal drainage are medium. A representative profile is as follows:

- A₁ 0 to 8 inches, very dark grayish-brown (10YR 3/2) very friable sandy loam; contains many small, hard concretions of iron; weak fine granular structure; strongly acid; 6 to 12 inches thick.
- A₂ 8 to 12 inches, dark yellowish-brown (10YR 4/4) very friable light sandy loam; contains many small, hard concretions of iron; weak fine crumb structure; strongly acid; 4 to 6 inches thick.
- B₁ 12 to 18 inches, yellowish-brown (10YR 5/6) very friable light sandy clay loam; contains many small, hard concretions of iron; strongly acid; 8 to 15 inches thick.
- B₂ 18 to 34 inches, yellowish-brown (10YR 5/8) friable sandy loam; contains many small, hard concretions of iron; weak fine subangular blocky structure; strongly acid; 15 to 24 inches thick.
- B₃ 34 to 39 inches, yellowish-brown (10YR 5/8) friable sandy clay loam or sandy clay; common, medium, prominent mottles of red (2.5YR 4/8); contains many small, soft concretions of iron; moderate medium subangular blocky structure; strongly acid; 4 to 8 inches thick.
- C₁ 39 to 42 inches, yellowish-brown (10YR 5/8) firm sandy clay or sandy clay loam; common, medium, distinct mottles of yellowish red (5YR 4/8); contains a few small, soft concretions of iron; moderate medium angular blocky structure; strongly acid; 4 to 7 inches thick.
- C₂ 42 to 56 inches, yellowish-brown (10YR 5/6) firm sandy clay; many, medium, prominent mottles of red (2.5YR 4/8) and light gray (2.5Y 7/2); moderate medium angular blocky structure; strongly acid; 20 inches or more thick.

The quantity of concretions varies from place to place. Normally, about 20 percent of the upper 6 inches consists of concretions. These concretions do not affect fertility, but they increase the permeability of the soil. The texture of the subsoil ranges from sandy loam to sandy clay. Included are areas of Tifton soil that have a sand surface soil, and a few areas of Tifton loamy sand, thick surface phase, of Tifton sandy loam, thin solum phase, and of Norfolk loamy sand.

This soil is the most productive in the county and has the widest range of suitability. It is well suited to cotton, peanuts, vegetables, corn, pecans, coastal bermudagrass, crimson clover, and oats. It is moderately well suited to tobacco. This soil is in capability unit I-1.

Tifton sandy loam, very gently sloping phase (TcB1).—This soil differs from Tifton sandy loam, level phase, in having 2 to 5 percent slopes. It should be terraced, tilled on the contour, and kept in close-growing plants much of the time. Views of this soil are shown in figures 10, 11, and 12. It is in capability unit IIe-2.

Tifton sandy loam, eroded very gently sloping phase (TcB2).—This soil has a thinner surface soil than Tifton sandy loam, level phase. It is on slopes of 5 to 8 percent. If it is used for row crops, it should be terraced, tilled on the contour, and frequently planted to close-growing crops. Views of this soil are shown in figures 13 and 14. This soil is in capability unit IIe-2.

Tifton sandy loam, gently sloping phase (TcC1).—This soil differs from Tifton sandy loam, level phase, in having 5 to 8 percent slopes. Because of the stronger slopes,



Figure 10.—Tifton sandy loam, very gently sloping phase. Wind has removed one-eighth of the surface soil, and many pebbles are exposed. This soil is in capability unit IIe-2.



Figure 11.—Tifton sandy loam, very gently sloping phase, can be cultivated if managed with moderate care, which includes construction of terraces and waterways. It is in capability unit IIe-2.



Figure 12.—Tifton sandy loam, very gently sloping phase. This pasture has been seeded to crimson clover and coastal bermudagrass. This soil is in capability unit IIe-2.

runoff is more rapid and erosion is a hazard. This soil should be terraced and kept in close-growing vegetation most of the time. It is in capability unit IIIe-2.

Tifton sandy loam, eroded gently sloping phase (TcC2).—This soil has a thinner surface soil than Tifton



Figure 13.—Tifton sandy loam, eroded very gently sloping phase. This soil is in capability unit IIe-2.



Figure 14.—Tifton sandy loam, eroded very gently sloping phase, that has been planted to pine. This soil is in capability unit IIe-2.

sandy loam, level phase. It is on slopes of 5 to 8 percent. This soil should be terraced and planted to close-growing vegetation most of the time. It is not generally used for truck crops and tobacco. It is in capability unit IIIe-2.

Tifton sandy loam, very gently sloping thin solum phase (TdB1).—This soil is 14 to 32 inches deep. It is browner than Tifton sandy loam, very gently sloping phase, and generally more clayey. The lower subsoil normally is firm or brittle. Runoff is rapid, and internal drainage is medium. A representative profile is as follows:

- A_p 0 to 7 inches, very dark grayish-brown (2.5Y 3/2) very friable sandy loam; contains many small, hard concretions of iron; weak fine granular structure; strongly acid; 5 to 8 inches thick.
- A_s 7 to 13 inches, dark-brown (7.5YR 4/4) very friable fine sandy loam; contains many small, hard concretions of iron; weak fine granular structure; very strongly acid; 4 to 7 inches thick.
- B₁ 13 to 21 inches, yellowish-red (5YR 4/6) or yellowish-brown (10YR 5/6) friable fine sandy clay loam; contains many small, hard concretions of iron; weak fine subangular blocky structure; very strongly acid; 4 to 7 inches thick.
- B₂ 21 to 27 inches, yellowish-red (5YR 4/8) firm fine sandy clay loam or sandy clay; contains many small, hard

- concretions of iron; moderate medium angular blocky structure; very strongly acid; 4 to 7 inches thick.
- C 27 inches +, mottled yellowish-red (5YR 4/8), red (10R 5/8), and reddish-yellow (7.5YR 6/8) firm fine sandy clay loam or sandy clay; contains small, hard concretions of iron; strong medium angular blocky structure; extremely acid; 20 to 30 inches thick.

In some places the surface soil contains a few concretions, and in other places it contains many. The surface soil is thin to moderately thick. The subsoil ranges in texture from moderately coarse to moderately fine. It is very thin to moderately thick. Included are small areas of other Tifton sandy loams, Sunsweet soils, and Gilead soils.

This soil is used for cotton, corn, peanuts, pasture, and pines. It is in capability unit IIe-4.

Tifton sandy loam, eroded very gently sloping thin solum phase (TdB2).—Because of erosion, this soil has a thinner surface soil than Tifton sandy loam, very gently sloping phase. It should be kept in close-growing plants most of the time. This soil is in capability unit IIIe-4.

Tifton sandy loam, gently sloping thin solum phase (TdC1).—This soil differs from Tifton sandy loam, very gently sloping thin solum phase, in having 5 to 8 percent slopes. Some included areas have slopes as strong as 12 percent. Runoff is more rapid than on the very gently sloping phase, and erosion is a serious hazard. Close-growing plants should be on the soil two-thirds of the time. This soil is in capability unit IIIe-4.

Tifton sandy loam, eroded gently sloping thin solum phase (TdC2).—This soil differs from Tifton sandy loam, very gently sloping thin solum phase, in having 5 to 8 percent slopes and, as a result of erosion, a thinner surface soil. Some included areas have slopes as strong as 12 percent. Because of the stronger slopes, runoff is more rapid and further erosion is a serious hazard. This soil should be terraced and kept in close-growing plants most of the time. It is best to use it for pasture or to plant it to pines. This soil is in capability unit IVe-4.

Tifton loamy sand, level thick surface phase (Tb).—This soil has a surface soil that is coarser in texture and thicker than the surface soil of Tifton sandy loam, level phase. It is also lower in plant nutrients and has lower moisture-holding capacity. It is well drained to somewhat excessively drained; internal drainage is medium, and infiltration is rapid. A representative profile is as follows:

- A_p 0 to 9 inches, very dark grayish-brown (10YR 3/2) nearly loose loamy sand; contains many small, hard concretions of iron; weak fine granular structure; strongly acid; 6 to 10 inches thick.
- A₂ 9 to 20 inches, olive-yellow (2.5Y 6/6) nearly loose loamy sand; contains many small, hard concretions of iron; weak fine granular structure; strongly acid; 11 to 18 inches thick.
- B₁ 20 to 25 inches, yellowish-brown (10YR 5/8) very friable sandy loam; contains many small, hard concretions of iron; weak fine subangular structure; very strongly acid; 4 to 6 inches thick.
- B₂ 25 to 34 inches, yellowish-brown (10YR 5/6) very friable sandy loam; contains many small, hard concretions of iron; moderate medium subangular blocky structure; very strongly acid; 8 to 15 inches thick.
- B₃ 34 to 39 inches, yellowish-brown (10YR 5/8) friable sandy clay loam; many, medium, distinct mottles of yellowish red (5YR 4/8); contains many soft concretions of iron; moderate medium subangular blocky structure; very strongly acid; 4 to 6 inches thick.
- C 39 to 57 inches, strong-brown (7.5YR 5/8) friable sandy clay loam; many, coarse, prominent mottles of weak

red (10R 4/4) and white (2.5Y 8/2); structureless; strongly acid; 20 to 40 inches or more thick.

In some places this soil contains only a few pebbles, but in others it contains many. The A horizon ranges from 18 to 30 inches thick. It is thin in places where the B horizon is thick and is thick where the B horizon is thin. The B horizon is moderately coarse textured to moderately fine textured.

This soil is used for nearly all the crops of the area. It is not so well suited to cotton or crimson clover as Tifton sandy loam, but it is better suited to tobacco. Figure 15 is a view of Tifton loamy sand, level thick surface phase. This soil is in capability unit IIs-1.



Figure 15.—Tifton loamy sand, level thick surface phase. This soil is in capability unit IIs-1. It is slightly droughty and needs soil-building crops like the blue lupine in this field.

Tifton loamy sand, very gently sloping thick surface phase (TbB1).—This soil is similar to Tifton loamy sand, level thick surface, except that it has 2 to 5 percent slopes and, consequently, more rapid runoff. Erosion is a hazard. This soil should be terraced and kept under close-growing vegetation most of the time. It is in capability unit IIs-1.

Tifton loamy sand, gently sloping thick surface phase (TbC1).—This soil is similar to Tifton loamy sand, level thick surface phase, except that it has 5 to 8 percent slopes and, consequently, more rapid runoff. Erosion is a serious hazard. This soil should be terraced and kept under close-growing plants much of the time. It is in capability unit IIIe-5.

Tifton loamy coarse sand, very gently sloping phase (TaB1).—This soil has a coarser textured surface soil than Tifton sandy loam, level phase, and is more droughty and more difficult to keep fertile. Slopes range from 2 to 5 percent. This soil should be terraced and kept in close-growing vegetation. It is in capability unit IIe-2.

General Nature of the County

Tift County is in the south-central part of Georgia (fig. 16). It was organized in 1905 from parts of Berrien County and Irwin County on the east and Worth County on the west. The area of the county is 266 square miles, or approximately 170,000 acres. In 1950, the population was 22,645. Farming is the most common occupation. The native vegetation of the area was chiefly longleaf pine. In the early 1900's the principal industries were sawmills

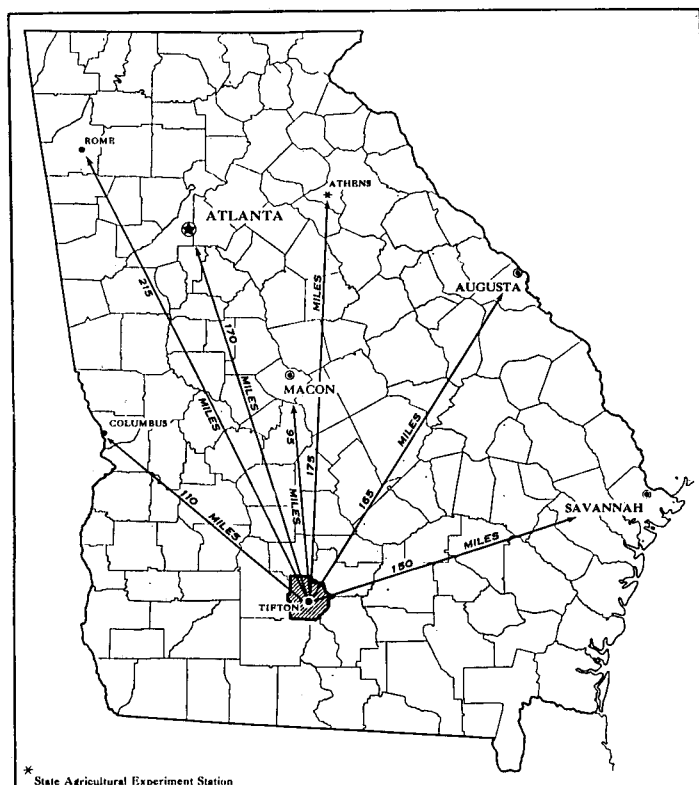


Figure 16.—Location of Tift County in Georgia.

and turpentine plants, but today there are meat packing and chemical plants, cotton mills, and other factories at Tifton.

Transportation.—Tifton, the centrally located county seat, is the transportation center of the county. It is served by the Southern Railway and the Atlantic Coast Line; by United States Highways 41, 319, and 82; by State Highway 125; and by an airport. Most of the farm homes in the county are within 0.2 mile of an all-weather road.

Towns.—Tifton (pop. 6,831) is located in the center of the county. Ty Ty (pop. 478), is in the west-central part, on United States Highway 82. Omega (pop. 966) is in the southwestern part, on United States Highway 319. Other small towns are Chula, in the northern part of the county on United States Highway 41; Eldorado, in the southern part on United States Highway 41; and Brookfield, in the eastern part of the county on United States Highway 82.

Cultural facilities.—School facilities in the county are adequate. Most of the many churches have modern buildings. The Georgia Coastal Plain Experiment Station and the Abraham Baldwin Agricultural College are at Tifton.

Home equipment.—In 1954, almost all of the 1,287 farms in the county had electricity, 890 had running water, 137 had television sets, and 488 had telephones.

Relief and Drainage

Tift County slopes very gently toward the southeast. The southeastern corner of the county is nearly level, but the relief in the northeastern corner is more broken. The county consists of uplands, river terraces, and flood plains. Moderately wide interstream divides separate relatively broad valleys. The divides are nearly level, very gently

sloping, or undulating. The valleys have gently sloping sides and nearly level bottoms. The slopes generally are less than 5 percent, but along the sides of many valleys they range from 5 to 15 percent. The eastern part of the county is drained by the Alapaha River and its tributaries. The Little River flows from the northwest corner of the county to the south-central boundary. The southwestern part of the county is drained by Gum Creek and Ty Ty Creek.

Climate

The climate of Tift County is humid and temperate. Winters are short and mild. Short periods of damp chilly weather occur, but hard freezes and snowfalls are uncommon. The short periods of cold weather generally are followed by warm sunny days. The summers are long and hot. The heat, however, is not oppressive for long periods because breezes blow from the Gulf of Mexico and the Atlantic Ocean. The average temperature and precipitation at Tifton, Ga., are given in table 6.

The normal annual rainfall is about 48 inches. It is distributed throughout the year so that it is favorable to crop growth. Rainfall is heaviest during summer and lightest during the harvesting season. The average

TABLE 6.—Temperature and precipitation at Tifton 2 N Station, Tift County, Ga.

[Elevation, 370 feet]

Month	Temperature ¹			Precipitation ²			
	Average	Absolute maximum	Absolute minimum	Average	Driest year (1938)	Wettest year (1928)	Average snowfall
December.....	52.1	82	14	3.48	2.51	2.83	(3)
January.....	51.5	83	12	4.39	2.52	1.36	(3)
February.....	53.2	84	15	4.03	1.24	7.39	0.2
Winter.....	52.3	84	12	11.90	6.27	11.58	.2
March.....	58.6	90	18	4.69	1.95	5.55	0
April.....	66.1	93	30	4.19	2.43	11.57	0
May.....	73.5	100	42	3.31	2.39	3.41	0
Spring.....	66.1	100	18	12.19	6.77	20.53	0
June.....	79.4	105	52	4.72	4.22	4.27	0
July.....	80.8	104	61	6.02	2.92	7.93	0
August.....	80.5	106	59	5.67	2.27	18.36	0
Summer.....	80.2	106	52	16.41	9.41	30.56	0
September.....	77.6	96	45	3.63	2.46	6.72	0
October.....	68.0	88	30	1.79	1.01	.40	0
November.....	57.8	82	10	1.71	.58	1.11	0
Fall.....	67.8	96	10	7.13	4.05	8.23	0
Year.....	66.6	106	10	47.63	26.50	70.90	.2

¹ Average temperature based on a 31-year record, through 1955; highest and lowest temperature on a 31-year record, through 1952.

² Average precipitation based on a 33-year record, through 1955; wettest and driest years based on a 33-year record, in the period 1923–52; snowfall based on a 11-year record, through 1952.

³ Trace.

frost-free season is 257 days. The average date of the last killing frost in the spring is March 7, and the average date of the first killing frost in the fall is November 19. Frosts have occurred as late as March 20 and as early as November 1.

Water Supply

Deep wells are the most reliable source of water in Tift County. An enormous underground supply of water occurs at depths of 350 to 600 feet. Wells that have 4- to 12-inch cores are being drilled. Water for irrigation can be pumped from the wells directly to the soils or to surface reservoirs or ponds. The number of wells of this type is increasing.

Farm ponds to store water for irrigation and for watering livestock are common. A detailed examination of the soils on the watersheds should be made to locate suitable sites for ponds and dams. Watersheds that are dominated by deep soils—for example, the thick-surface phases of the Tifton, Norfolk, and Gilead—are excellent for maintaining a head of water. Only a small to a moderate amount of water runs off these soils, but subsurface seepage allows a fairly uniform flow of water into the catchment areas. On watersheds that consist mostly of the thin-surface phases of Tifton or of other shallow or moderately deep soils, there is more runoff and less seepage. Ponds supplied from such watersheds are likely to discharge water rapidly over the spillway after a rainfall, and to retain less water for gradual discharge.

Many of the flats or drainageways where the Rains soils occur are good locations for farm ponds. The lower subsoil of the Rains soils generally contains clay suitable for bonding material or foundation material. Core trenches for dams generally need to be 3 to 6 feet deep but, in places, permeable soil material must be removed to a depth of 15 feet. The sandy clay loam subsoil of the Tifton, Norfolk, Gilead, Shubuta, and Sunsweet soils is good fill material if it is well compacted.

In 1954, according to the United States Census, there were 699 farm ponds in Tift County. Because of the drought of 1954, however, more ponds have been constructed in the southern part of Georgia since 1954 than during any other period of equal length.

Agriculture

The trend in Tift County is toward modern, diversified farming. At one time, cotton and corn were practically the only cash crops; now farmers sell corn, tobacco, peanuts, plants, cotton, and livestock and livestock products. As the system of farming improves and better crop varieties are introduced, yields are increasing. Special crops are irrigated, and research is being done on the irrigation of pasture, tobacco, and some general crops.

In 1918, when the Georgia Coastal Plain Experiment Station was established at Tifton, the principal crops in the county were cotton and corn. Some peanuts, sugarcane, and tobacco were also grown. Since 1918, the acreage in cotton and corn has declined, but these crops remain important cash crops. Tobacco and peanuts are also important. A few farmers grow tomato and cabbage plants, which are sold to northern growers.

The cropland in Tift County increased from 70,207 acres in 1939 to 75,083 acres in 1954. The total number

of farms decreased slightly during this period. Cotton acreage decreased from 11,005 acres in 1934 to 8,106 acres in 1954. In spite of this decrease, the number of bales of cotton produced in the county increased during this period from 4,402 to 4,412. The acreage of corn harvested for grain declined from 25,266 acres in 1934 to 22,981 acres in 1949. The yield of corn as reported by the United States Census, however, increased from 223,619 bushels in 1934 to 419,828 bushels in 1949. In 1939, 4,696 acres of tobacco yielded 3,984,390 pounds; in 1954, 3,810 acres yielded 3,227,206 pounds. Peanuts were grown alone on 20,155 acres in 1949, and on 8,900 acres in 1954. The lower acreage of peanuts in 1954 was caused by a severe drought. The acreage of winter legumes has increased considerably since 1935.

The number of cattle increased in Tift County from 8,419 in 1950 to 14,860 in 1954. In 1954, 2,229 cows were kept for milking. There were 16,933 hogs in 1950 and 17,325 in 1954.

The number of tractors on farms in Tift County increased from 1,050 in 1950 to 1,203 in 1954. During this period, the number of horses and mules decreased from 1,833 to 934.

Formation and Classification of Soils

Soil is the product of the forces of weathering and soil development acting on the parent material deposited or accumulated by geologic agencies. The characteristics of the soil at any given point depend on (1) the physical and mineralogical composition of the parent material; (2) the climate under which the soil material has accumulated and has existed since accumulation; (3) the plant and animal life in and on the soil; (4) the relief, or lay of the land; and (5) the length of time the forces of development have acted on the material.³

Each of these five factors have influenced the formation and development of the soils of Tift County, but the parent material, climate, and type of vegetation have had more influence than relief and time. However, the effects of each factor have been influenced or altered by the effect of one or all of the other factors. For example, the warm, humid climate has been conducive to the growth of coniferous and deciduous forest and an understory of wiregrass. This type of vegetation retarded runoff; consequently, much of the rain soaked into the relatively permeable parent material. This combination of factors helped form the very gentle relief of the county. There are many other interrelationships between the natural factors that affect the development of soil.

Because the normal rainfall in Tift County is nearly 50 inches a year, the minerals have been leached from the relatively coarse textured parent material. The removal of such elements as calcium, magnesium, and sodium and their replacement with hydrogen caused the soils to become acid (pH 3.5 to 6.0) and less fertile. This, in turn, has brought about changes in the native vegetation.

In time, the soils may undergo further changes because of changes in the weathering factors.

Tift County, lying in the middle Coastal Plain province, has soils that formed from materials of the Hawthorn

³ UNITED STATES DEPARTMENT OF AGRICULTURE. SOILS AND MEN. U. S. Dept. Agr. Yearbook 1938, 1232 pp., illus.

formation. This formation possibly is of the Pleistocene epoch. It consists of irregularly bedded sands, clays, sandy clays, and gravel that are indurated in places.

The upland soils have developed in place from materials weathered from these unconsolidated beds. The soils of the terraces consist of areas of old alluvium on the second bottoms of the valleys of rivers and creeks, and of recent deposits of the alluvial material of Swamp and Alluvial soils. Most of the materials on both the terraces and the first bottoms have been washed from soils in the Coastal Plain.

The native vegetation on the well-drained soils was predominantly longleaf pine mixed with some hardwoods. The forest growth, together with the warm temperatures of the long summer and the high rainfall, has retarded the accumulation of organic matter in the soil. In the forest areas a thin veneer of leaf mold is generally on the surface of the soil and a small amount of organic matter is in the upper 1- to 3-inch layer. Since the soil is seldom frozen for more than a few days at a time, leaching and erosion continue throughout the year.

Most of the soils of the county are sandy and light colored. Most of them have a highly eluviated A horizon and a definitely illuviated B horizon.⁴ The C horizon varies more in color and texture from place to place than the A or B horizon. The C horizon is dominantly lighter colored and finer textured than the B horizon. Because of accumulations of organic matter, the soils of the poorly drained areas have a dark gray or very dark gray surface soil. Their subsoil and substratum are light colored and mottled.

Soils of four great soil groups occur in Tift County—Red-Yellow Podzolic soils, Regosols, Ground-Water Podzols, and Low-Humic Gleys.

Red-Yellow Podzolic Soils

The Red-Yellow Podzolic soils in the county are of these series:

Norfolk	Izagara
Shubuta	Sunsweet
Tifton	Gilead

Most of Tift County is in the Red-Yellow Podzolic region. Norfolk loamy sand is characteristic of the yellow soils of this great soil group. These soils have a thin organic-mineral layer over a grayish leached layer, which overlies a yellow layer.

The Tifton soils have some characteristics of Ground-Water Laterites. A Ground-Water Laterite has a bleached A horizon that contains some concretions, a more or less thick alluvial hardpan composed of iron and aluminum compound, and a water table that is alternately high and low. The Tifton soils do not have the fluctuating water table, and they have a hardpan in only a few places. The concretions in Tifton soils, however, are prominent.

The Izagara soils have some characteristics of Low-Humic Gleys, and the Sunsweet and Gilead soils have some characteristics of Regosols.

Ground-Water Podzols

The Leon soils are the only Ground-Water Podzols in Tift County. These soils were developed in humid regions from imperfectly drained sandy deposits. They have a thin mineral-organic layer overlying a light-gray leached layer. The leached layer overlies a dark-brown B horizon that is cemented to different degrees of hardness with iron or organic compounds, or both.

Low-Humic Gleys

The Low-Humic Gleys in Tift County are of these series:

Grady	Rains
Myatt	Lynchburg

These soils are poorly drained. They have a surface horizon that contains a medium amount of organic matter. The surface layer overlies a mottled gray and brown gleyed horizon that differs little in texture from the surface layer. These soils developed under pines, gallberry, and water-loving plants from parent materials of different properties. They are strongly acid and range from sand to clay.

Regosols

The Regosols in Tift County are of these series:

Huckabee	Klej
Kershaw	Susquehanna
Lakeland	

Regosols have formed in deep, unconsolidated rock, or in soft mineral deposits. Few, if any, distinct soil characteristics have developed. Regosols generally occur on sand dunes, in loess and glacial drift on steep slopes, and in colluvial material.

The Huckabee, Kershaw, Lakeland, and Klej soils have formed from thick beds of sand and loamy sand. The Susquehanna soils have formed from thick beds of clay or sandy clay. The Huckabee, Kershaw, and Lakeland soils have some characteristics of Red-Yellow Podzolic soils; the Klej soils have some characteristics of Low-Humic Gleys; and the Susquehanna soils have some characteristics of Planosols.

Soil Survey Methods and Definitions

Soil surveying consists of the examination, classification, and mapping of soils in the field. The soil scientist walks over the survey area at intervals of not more than one-quarter mile and bores into the soil with an auger or digs holes with a spade. Each boring or hole shows the soil to consist of several distinct layers or horizons, collectively known as the soil profile. Each of these layers is studied carefully for the things about it that affect plant growth.

The color of each layer is noted. The darkness of the topmost layer is usually related to its content of organic matter. Streaks and spots of gray, yellow, and brown in the lower layers generally indicate poor drainage and poor aeration.

⁴ UNITED STATES DEPARTMENT OF AGRICULTURE. SOIL SURVEY MANUAL. U. S. Dept. of Agr. Handbook 18, 503 pp., illus. 1951. [Replaces U. S. Dept. Agr. Misc. Pub. 274, the Soil Survey Manual, published in 1937.]

Texture, or the content of sand, silt, and clay in each layer, is determined by the way the material feels when it is rubbed between the fingers. Texture is later checked by mechanical analysis in the laboratory. It has much to do with the quantity of moisture the soil will hold available to plants, whether the plant nutrients or fertilizers will be held by the soil in forms available to plants or will be leached, and how difficult the soil may be to cultivate.

Soil structure, or the way the soil granulates and the amount of pore space between particles, indicates how easily plant roots can penetrate the soil and how readily water enters it.

Consistence, or the tendency of the soil to crumble or stick together, indicates how difficult it is to keep the soil open and porous under cultivation.

The kind of parent material, that is, the rocks or minerals from which the soil developed, affects the quantity and kind of plant nutrients in the soil. Simple chemical tests show how acid the soil is. The depth to bedrock, cemented or compact layers, or loose gravel is determined. The quantity of gravel or rocks, the steepness and kind of slope, the quantity of soil lost by erosion, and other external features are noted.

On the basis of these and other characteristics, soil areas that are much alike in the kind, thickness, and arrangement of layers are mapped as one soil type.

Some soil types are separated into two or more phases. For example, if a soil has slopes that range from 0 to 5 percent slopes, the type may be mapped in two phases, a level phase for slopes of 0 to 2 percent, and a very gently sloping phase for the slopes of 2 to 5 percent slopes. A soil from which 25 to 75 percent of the topsoil has been removed by erosion may be mapped as an eroded phase. In Tift County, a soil that has an original surface soil that is 18 to 30 inches thick is mapped as a thick surface phase. A soil that is 14 to 32 inches deep over the substratum is mapped as a thin solum phase.

A soil type is divided into phases primarily because of differences other than those of kind, thickness, and arrangement of layers. Examples of characteristics on the

basis of which a soil type may be divided into phases are slope, erosion, thickness of surface soil, and depth to the underlying material.

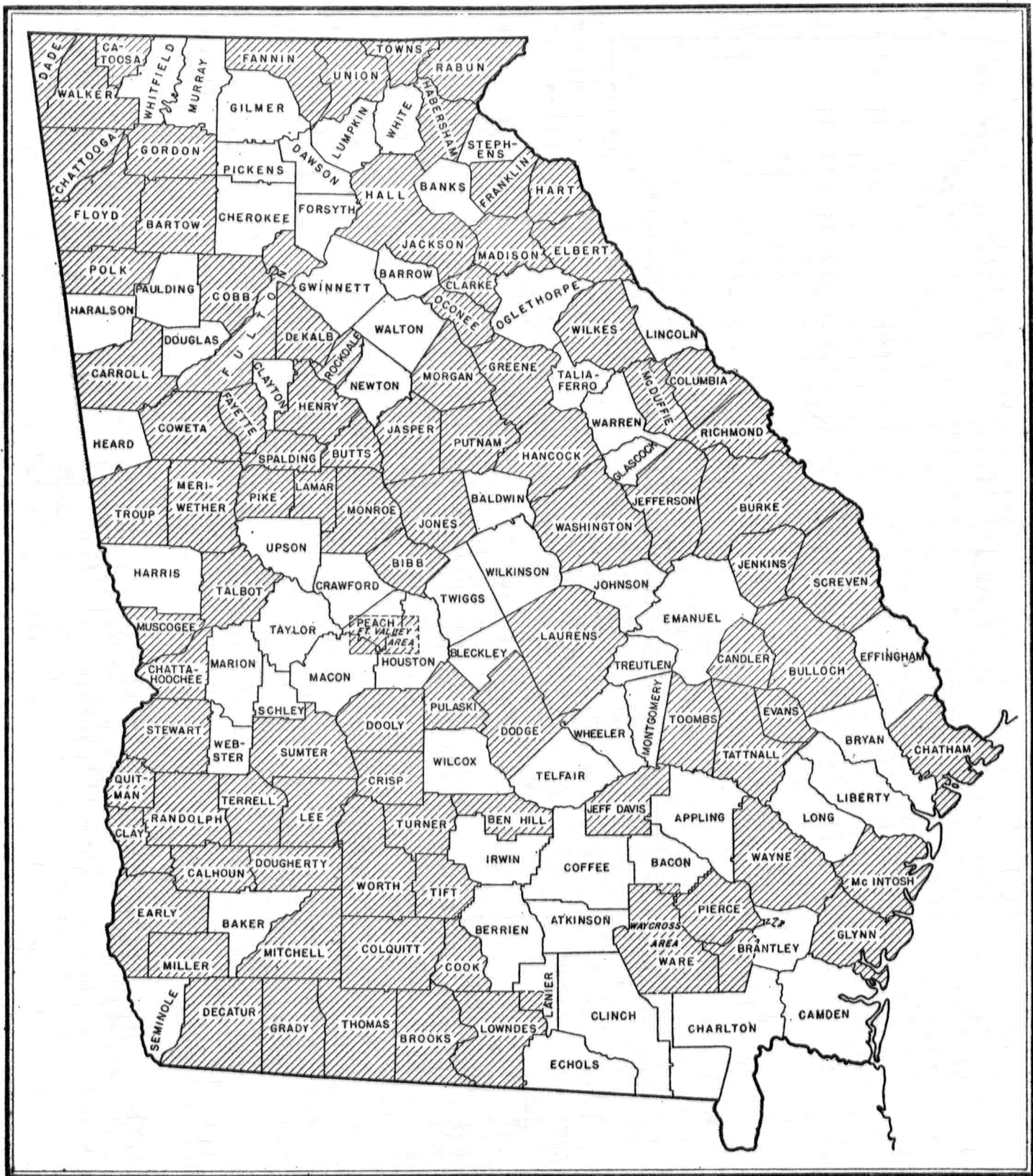
Two or more soils may be nearly the same except for texture, particularly texture of the surface layer. If the other characteristics of the soil are similar, these soils are considered to belong to the same soil series. A soil series therefore consists of all the soil types that, except for texture, particularly texture of the surface layer, have about the same kind, thickness, and arrangement of layers.

The name of a place near where a soil was first mapped is chosen as the name of the series. Thus Tifton is the name of a soil series in Tift County that was first recognized near Tifton. Three types of Tifton are mapped—Tifton sandy loam, Tifton loamy sand, and Tifton loamy coarse sand. These soils differ in the texture of their surface soil, as their names show. Tifton sandy loam is divided into nine phases on the basis of slope, erosion, and depth. Tifton loamy sand is divided into three phases on the basis of slope and thickness of surface layer. Only one phase of Tifton loamy coarse sand is mapped in the county.

In Tift County, Alluvial soils, Borrow pit, and Swamp are not designated with soil series and type names. They are considered to be miscellaneous land types and are given descriptive names. Sunsweet soils are so intermixed that it is impractical to separate them into types on the basis of the texture of the surface soil. They are mapped as undifferentiated units, but they are separated into two phases on the basis of slope.

The soil type or, if the soil type is subdivided, the soil phase, is the unit of mapping in soil surveys. It is the unit of soil that is most uniform and has the narrowest range of characteristics. For this reason land use and soil management practices can be more definitely specified for it than for broader groups of soils that contain more variation.

Finally, the soil surveyor makes a map of the county showing the location of each of the soil types, phases, and land types in relation to roads, houses, streams, lakes, and other local cultural and natural features of the landscape.



Areas surveyed in Georgia shown by shading.

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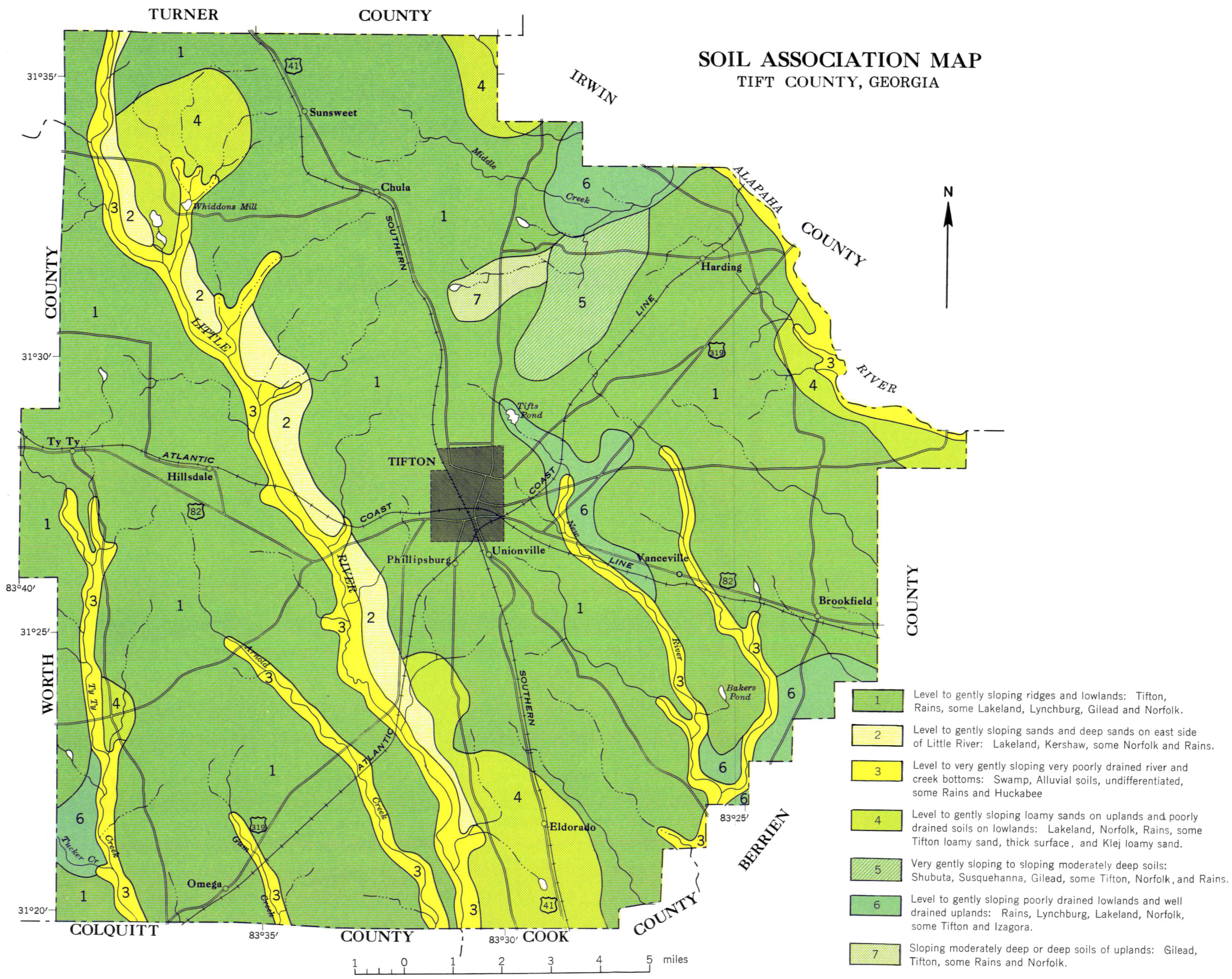
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For additional information dealing with Supplemental Nutrition Assistance Program (SNAP) issues, call either the USDA SNAP Hotline Number at (800) 221-5689, which is also in Spanish, or the State Information/Hotline Numbers (<http://directives.sc.egov.usda.gov/33085.wba>).

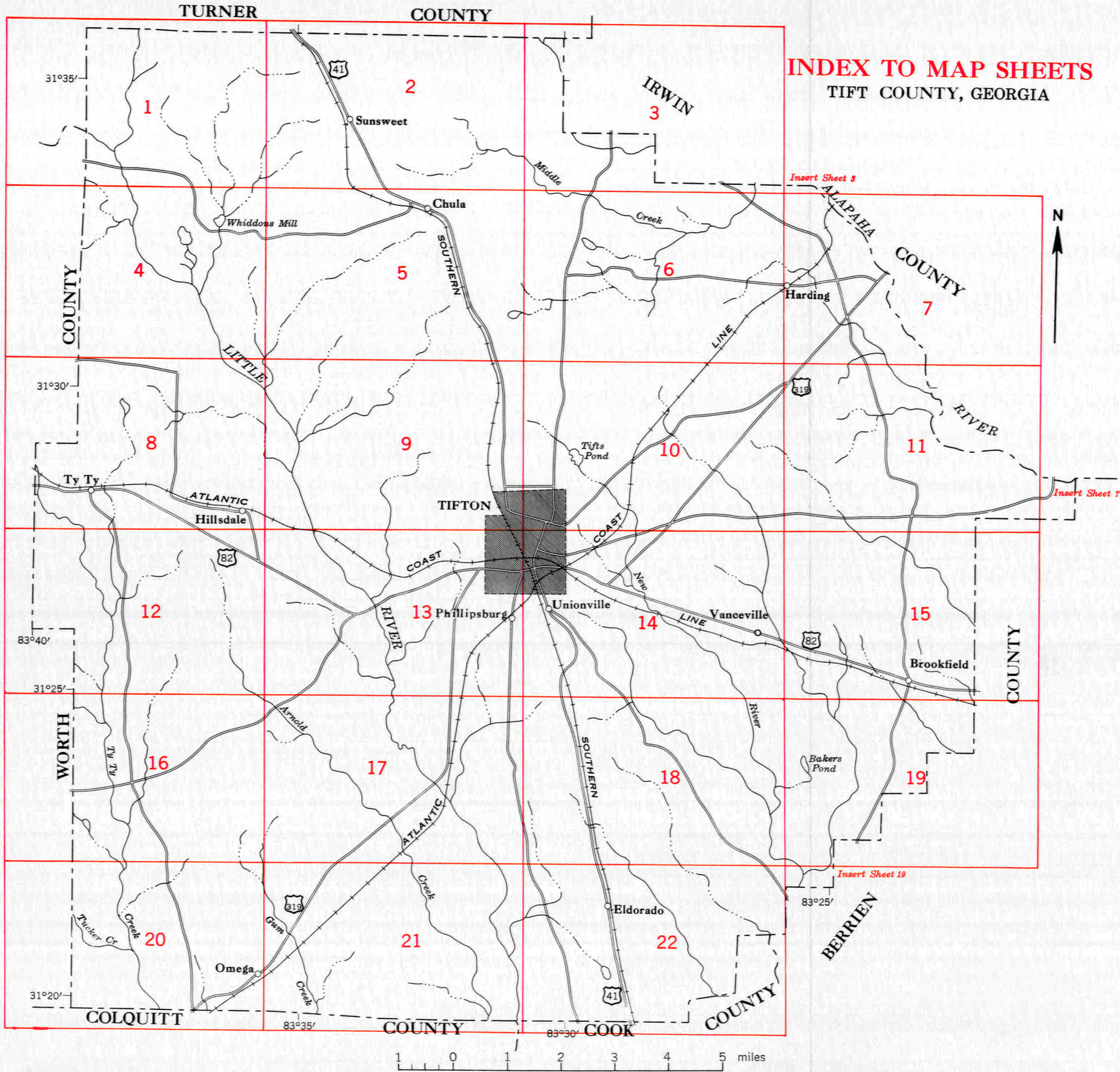
All Other Inquiries

For information not pertaining to civil rights, please refer to the listing of the USDA Agencies and Offices (<http://directives.sc.egov.usda.gov/33086.wba>).

SOIL ASSOCIATION MAP
TIFT COUNTY, GEORGIA



- 1 Level to gently sloping ridges and lowlands: Tifton, Rains, some Lakeland, Lynchburg, Gilead and Norfolk.
- 2 Level to gently sloping sands and deep sands on east side of Little River: Lakeland, Kershaw, some Norfolk and Rains.
- 3 Level to very gently sloping very poorly drained river and creek bottoms: Swamp, Alluvial soils, undifferentiated, some Rains and Huckabee
- 4 Level to gently sloping loamy sands on uplands and poorly drained soils on lowlands: Lakeland, Norfolk, Rains, some Tifton loamy sand, thick surface, and Klej loamy sand.
- 5 Very gently sloping to sloping moderately deep soils: Shubuta, Susquehanna, Gilead, some Tifton, Norfolk, and Rains.
- 6 Level to gently sloping poorly drained lowlands and well drained uplands: Rains, Lynchburg, Lakeland, Norfolk, some Tifton and Izagora.
- 7 Sloping moderately deep or deep soils of uplands: Gilead, Tifton, some Rains and Norfolk.



CONVENTIONAL SIGNS

WORKS AND STRUCTURES

Roads	
Good motor	
Poor motor	
Trail	
Marker, U. S.	
Railroads	
Single track	
Multiple track	
Abandoned	
Bridges and crossings	
Road	
Trail, foot	
Railroad	
Ferry	
Ford	
Grade	
R. R. over	
R. R. under	
Tunnel	
Buildings	
School	
Church	
Station	
Mine and Quarry	
Shaft	
Dump	
Prospect	
Pits, gravel or other	
Power line	
Pipeline	
Cemetery	
Dam	
Levee	
Tank	
Oil well	
Windmill	
Canal lock (point upstream)	

BOUNDARIES

National or state	
County	
Township, civil	
U. S.	
Section	
City (corporate)	
Reservation	
Land grant	

DRAINAGE

Streams	
Perennial	
Intermittent, unclass.	
Crossable with tillage implements	
Not crossable with tillage implements	
Canals and ditches	
Lakes and ponds	
Perennial	
Intermittent	
Wells	
Springs	
Marsh	
Wet spot	

RELIEF

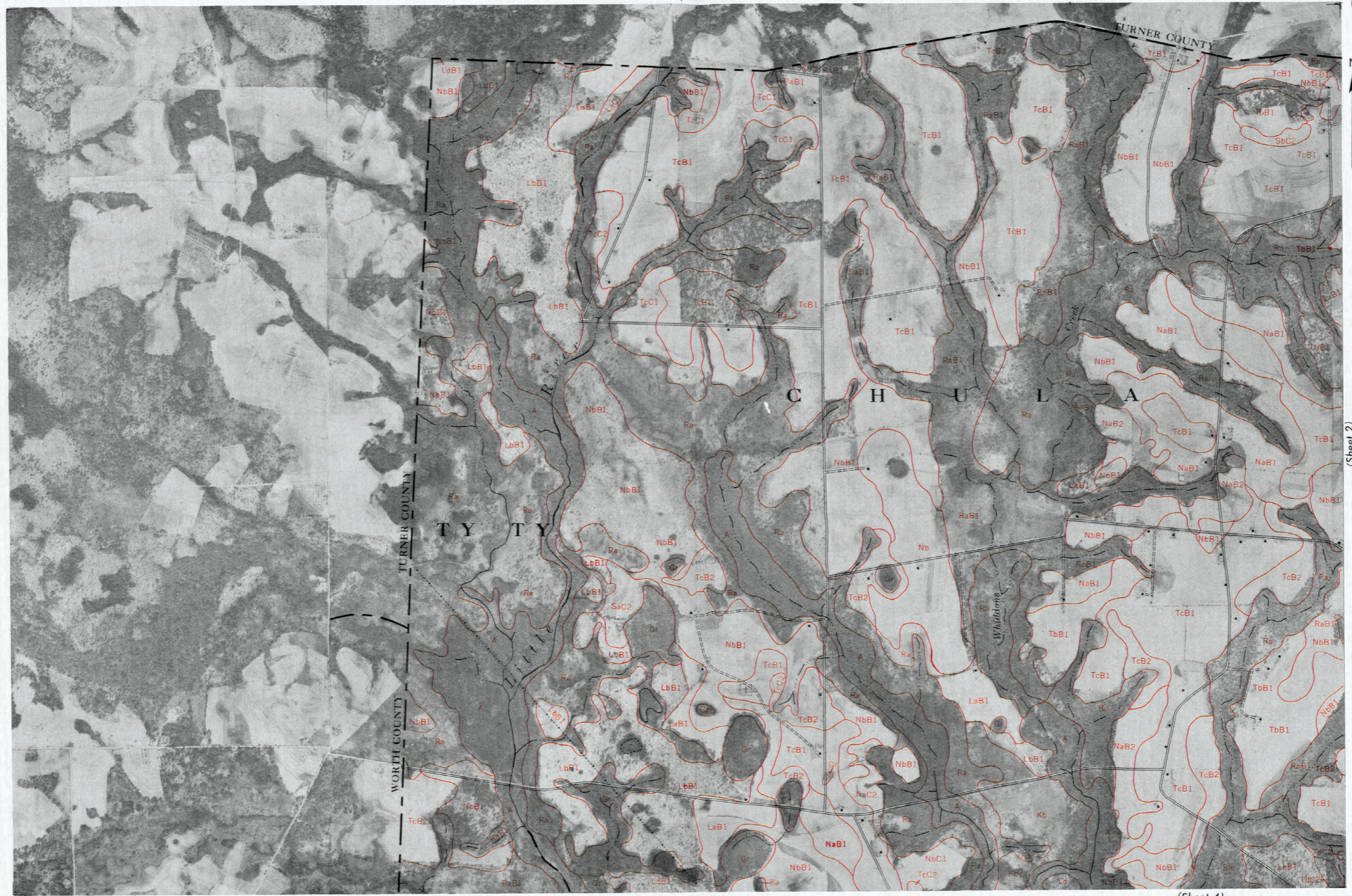
Escarpments	
Bedrock	
Other	
Prominent peaks	
Depressions	
Crossable with tillage implements	
Not crossable with tillage implements	
Contains water most of the time	

SOIL SURVEY DATA

Soil type outline and symbol	
Gravel	
Stones	
Rock outcrops	
Chert fragments	
Clay spot	
Sand spot	
Gumbo or scabby spot	
Made land	
Erosion	
Uneroded spot	
Sheet, moderate	
Sheet, severe	
Gully, moderate	
Gully, severe	
Sheet and gully, moderate	
Wind, moderate	
Wind, severe	
Blowout	
Wind hummock	
Overblown soil	
Gullies	
Crossable with tillage implements	
Not crossable with tillage implements	
Areas of alkali and salts	
Strong	
Moderate	
Slight	
Free of toxic effect	
Sample location	
Saline spot	

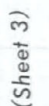
SOILS LEGEND

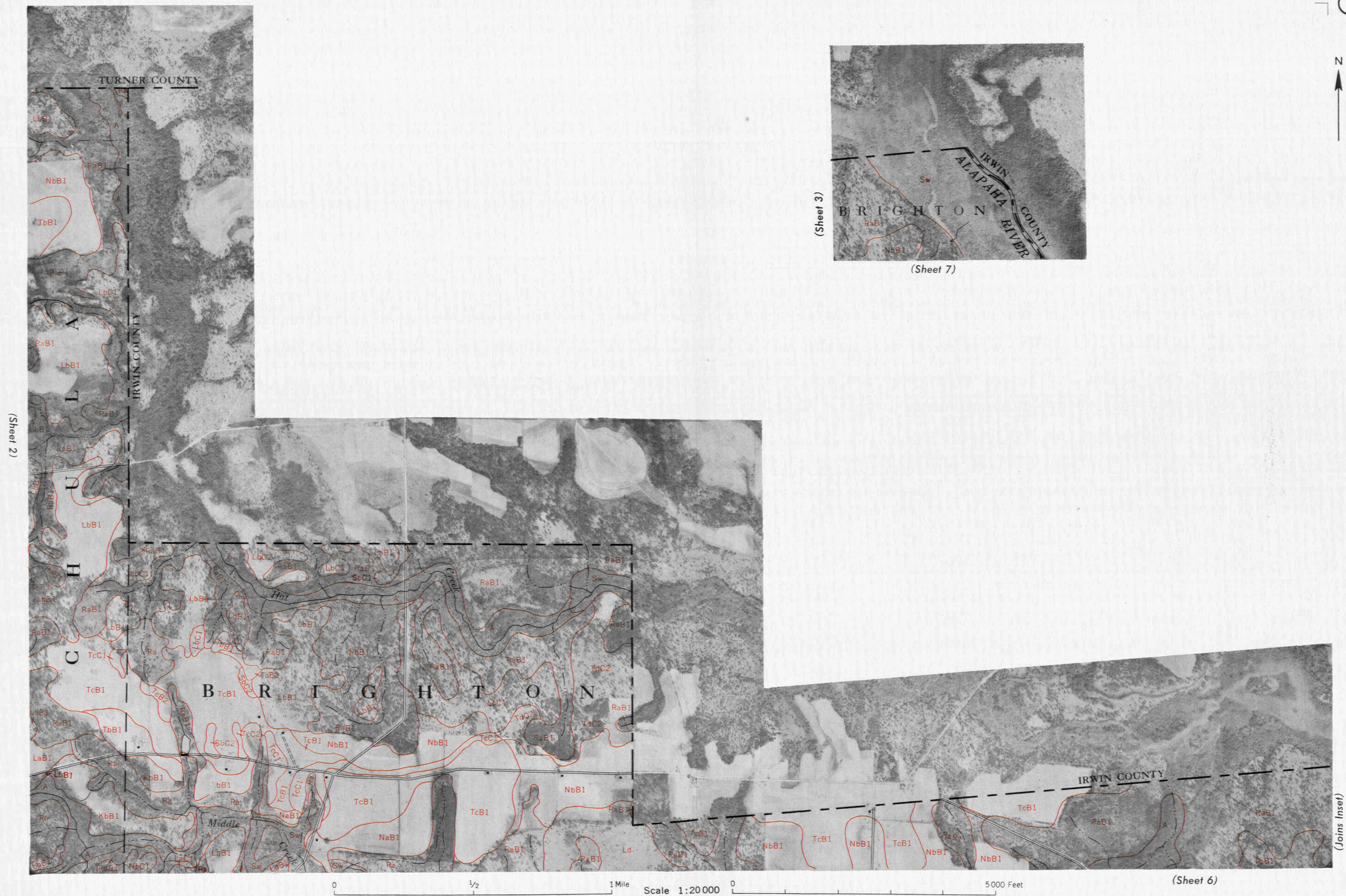
SYMBOL	NAME
A	Alluvial soils
B	Borrow pit
Ga	Gilead loamy sand, very gently sloping thick surface phase
GaB2	Gilead loamy sand, eroded very gently sloping thick surface phase
GaC2	Gilead loamy sand, eroded gently sloping thick surface phase
Gr	Grady sandy loam
Gu	Gullied land
Ha	Huckabee loamy fine sand
Ia	Izagora loamy fine sand, thick surface phase
Ka	Kershaw sand, very gently sloping phase
Kb	Klej loamy sand, level phase
KbB1	Klej loamy sand, very gently sloping phase
La	Lakeland loamy sand, level phase
LaB1	Lakeland loamy sand, very gently sloping phase
LaC1	Lakeland loamy sand, gently sloping phase
Lb	Lakeland sand, level phase
LbB1	Lakeland sand, very gently sloping phase
LbC1	Lakeland sand, gently sloping phase
Lc	Leon sand
Ld	Lynchburg loamy sand, level phase
LdB1	Lynchburg loamy sand, very gently sloping phase
Ma	Myatt fine sandy loam
Na	Norfolk loamy sand, level phase
NaB1	Norfolk loamy sand, very gently sloping phase
NaB2	Norfolk loamy sand, eroded very gently sloping phase
NaC2	Norfolk loamy sand, eroded gently sloping phase
Nb	Norfolk loamy sand, level thick surface phase
NbB1	Norfolk loamy sand, very gently sloping thick surface phase
NbB2	Norfolk loamy sand, eroded very gently sloping thick surface phase
NbC1	Norfolk loamy sand, gently sloping thick surface phase
Ra	Rains loamy sand, level thick surface phase
RaB1	Rains loamy sand, very gently sloping thick surface phase
SaB2	Shubuta fine sandy loam, eroded very gently sloping phase
SaC2	Shubuta fine sandy loam, eroded gently sloping phase
SbC2	Sunsweet soils, eroded gently sloping phases
SbD2	Sunsweet soils, eroded sloping phases
ScB1	Susquehanna sandy loam, very gently sloping phase
ScC1	Susquehanna sandy loam, gently sloping phase
Sw	Swamp
TaB1	Tifton loamy coarse sand, very gently sloping phase
Tb	Tifton loamy sand, level thick surface phase
TbB1	Tifton loamy sand, very gently sloping thick surface phase
TbC1	Tifton loamy sand, gently sloping thick surface phase
Tc	Tifton sandy loam, level phase
TcB1	Tifton sandy loam, very gently sloping phase
TcB2	Tifton sandy loam, eroded very gently sloping phase
TcC1	Tifton sandy loam, gently sloping phase
TcC2	Tifton sandy loam, eroded gently sloping phase
TdB1	Tifton sandy loam, very gently sloping thin solum phase
TdB2	Tifton sandy loam, eroded very gently sloping thin solum phase
TdC1	Tifton sandy loam, gently sloping thin solum phase
TdC2	Tifton sandy loam, eroded gently sloping thin solum phase



(Sheet 2)

(Sheet 4)







WORTH COUNTY

Little

CHULA

River

Whiddons

Whiddons
Mill Pond

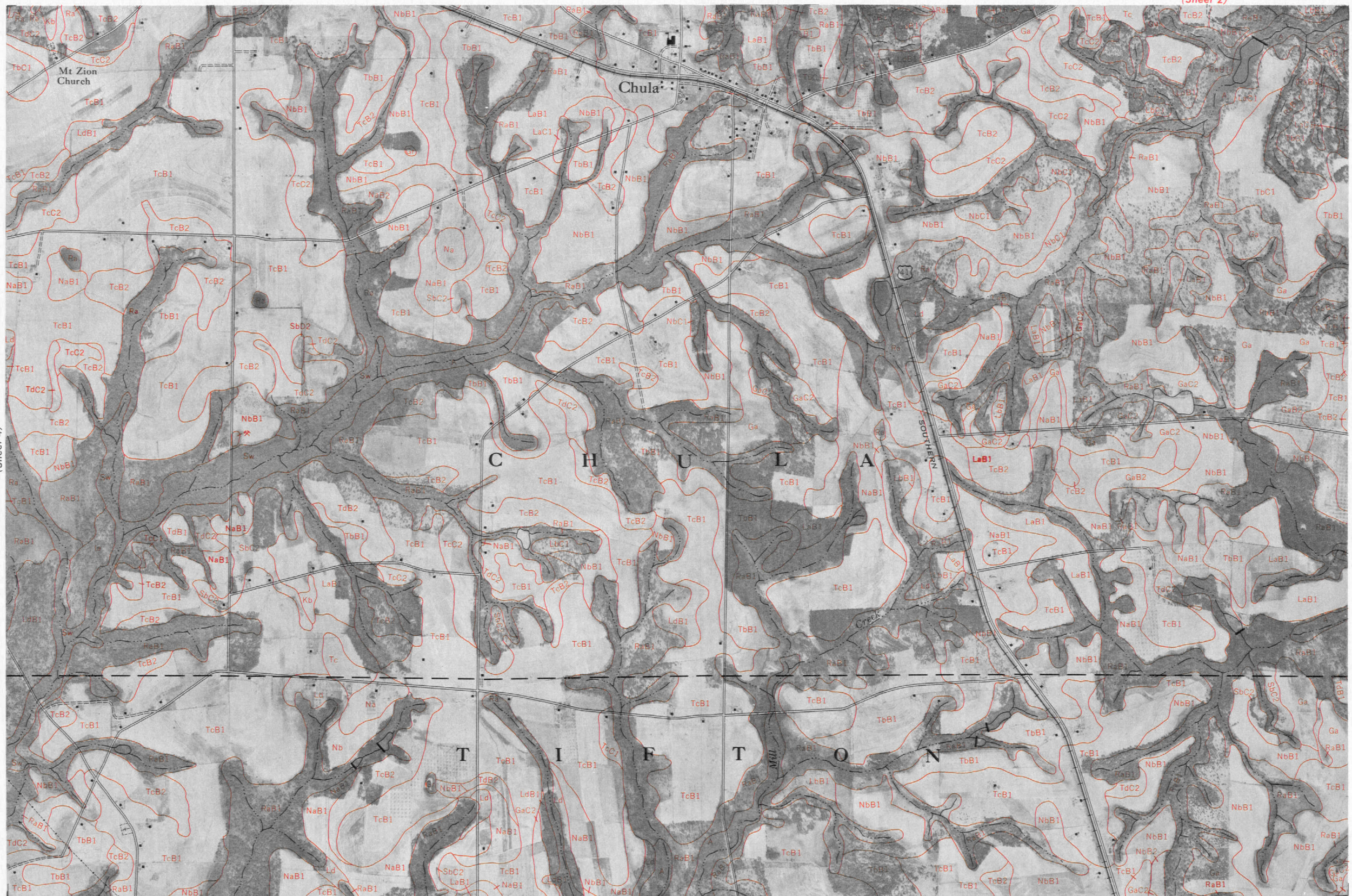
TY TY

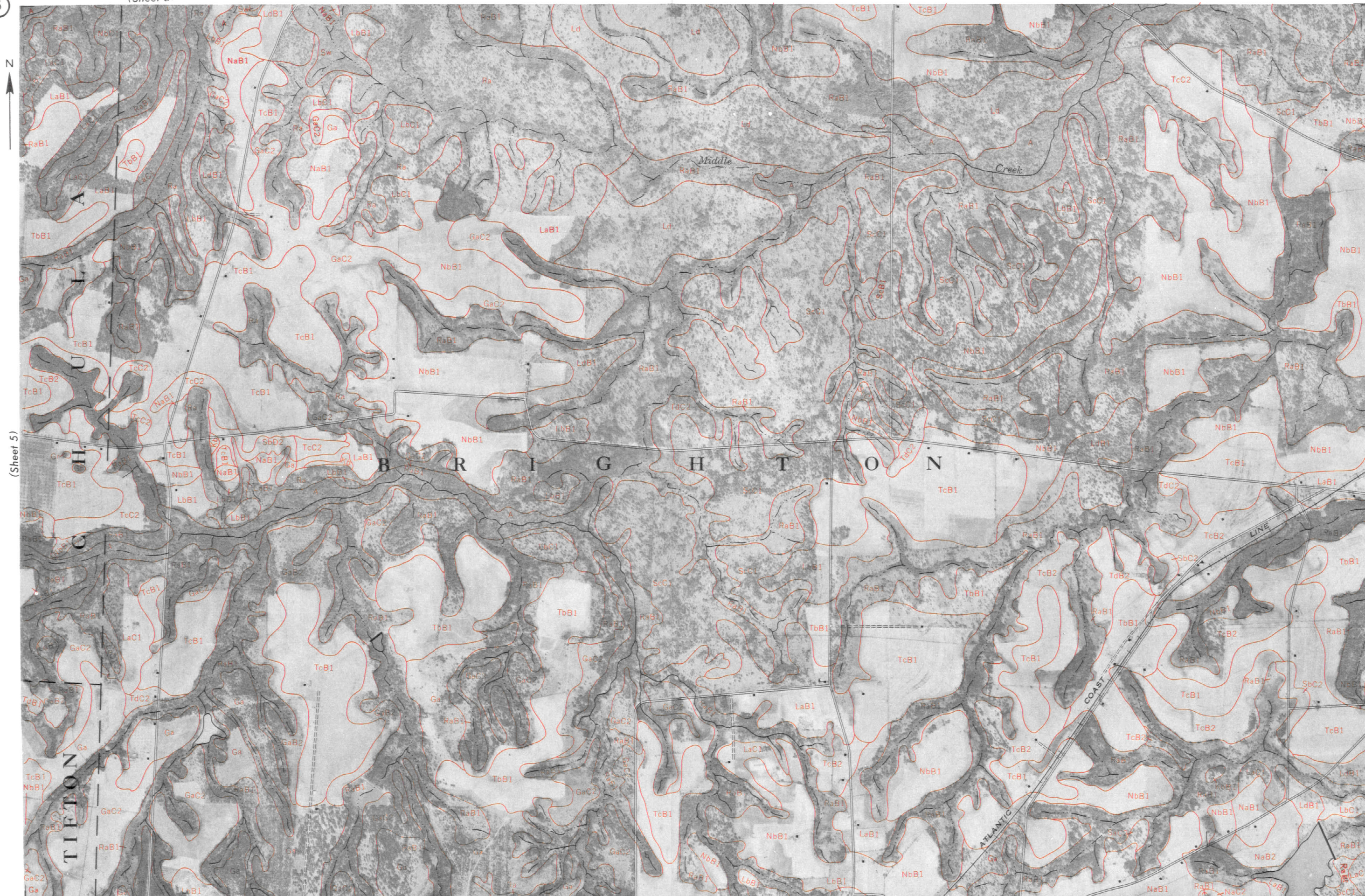
TIFTON



(Sheet 4)

(Sheet 6)



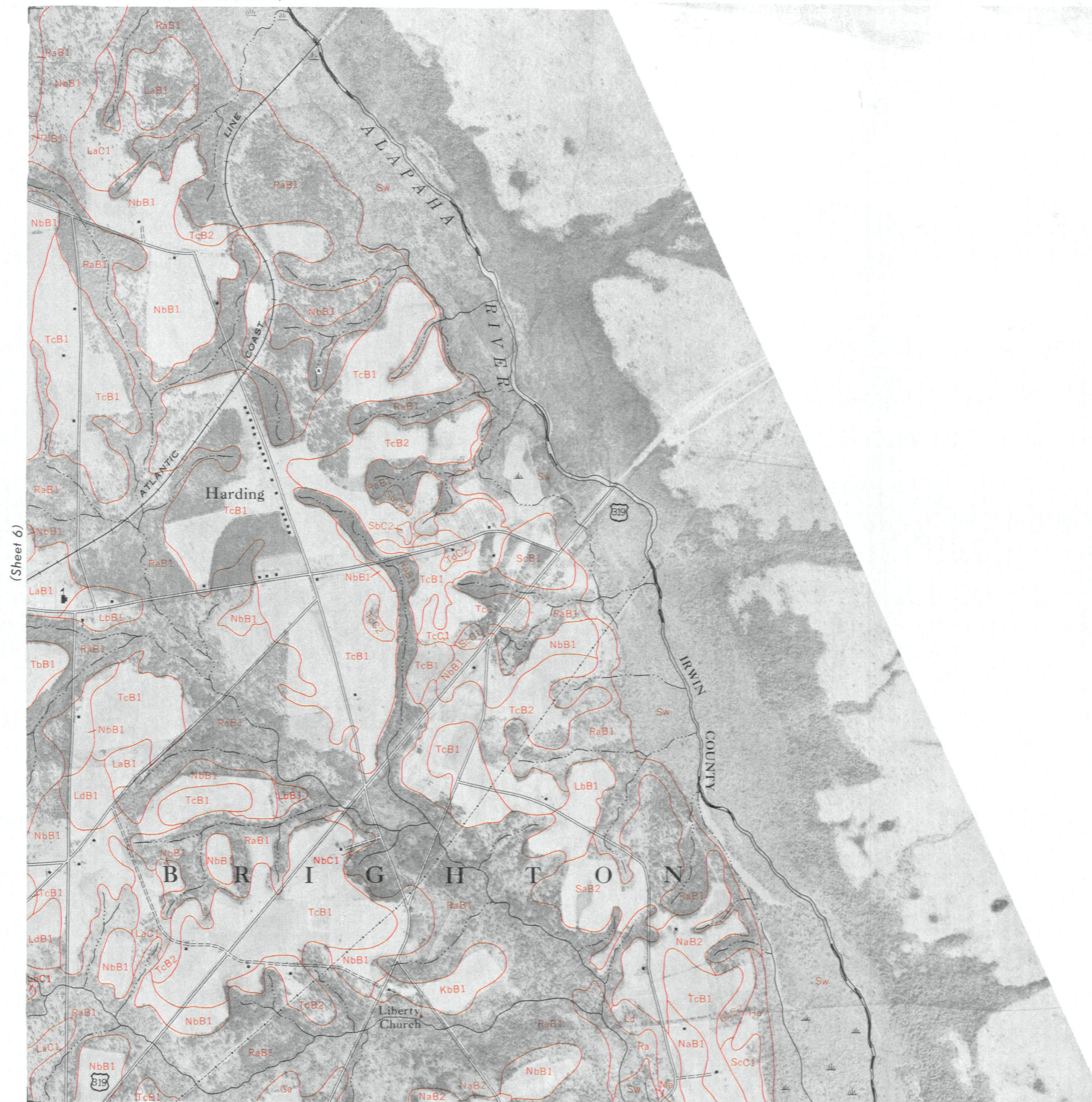


(Sheet 5)

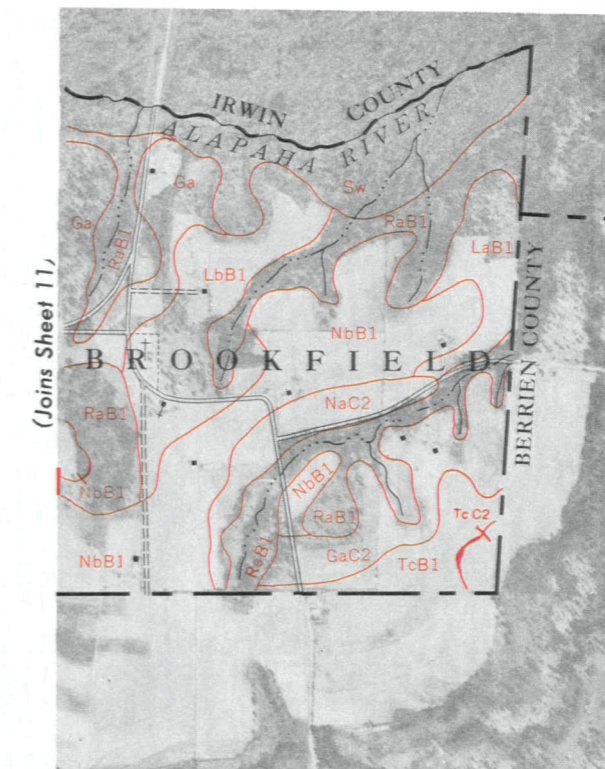
(Sheet 7)

(Sheet 10)

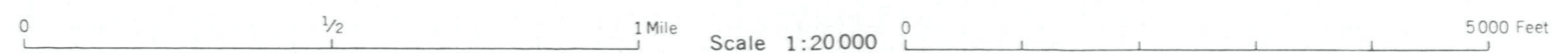
0 1/2 1 Mile Scale 1:20 000 0 5000 Feet



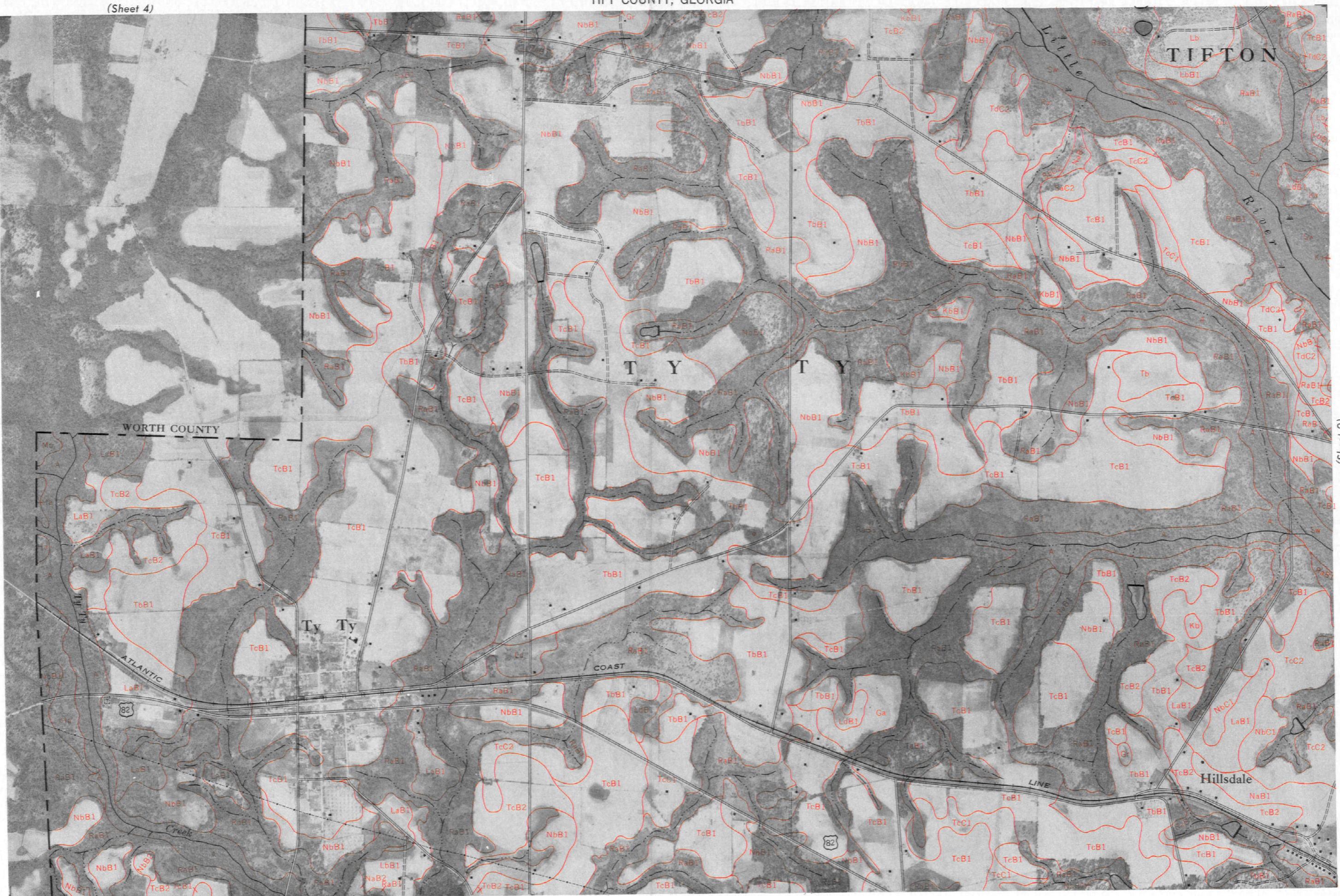
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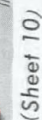


(Joins Sheet 11,



(Sheet 11)

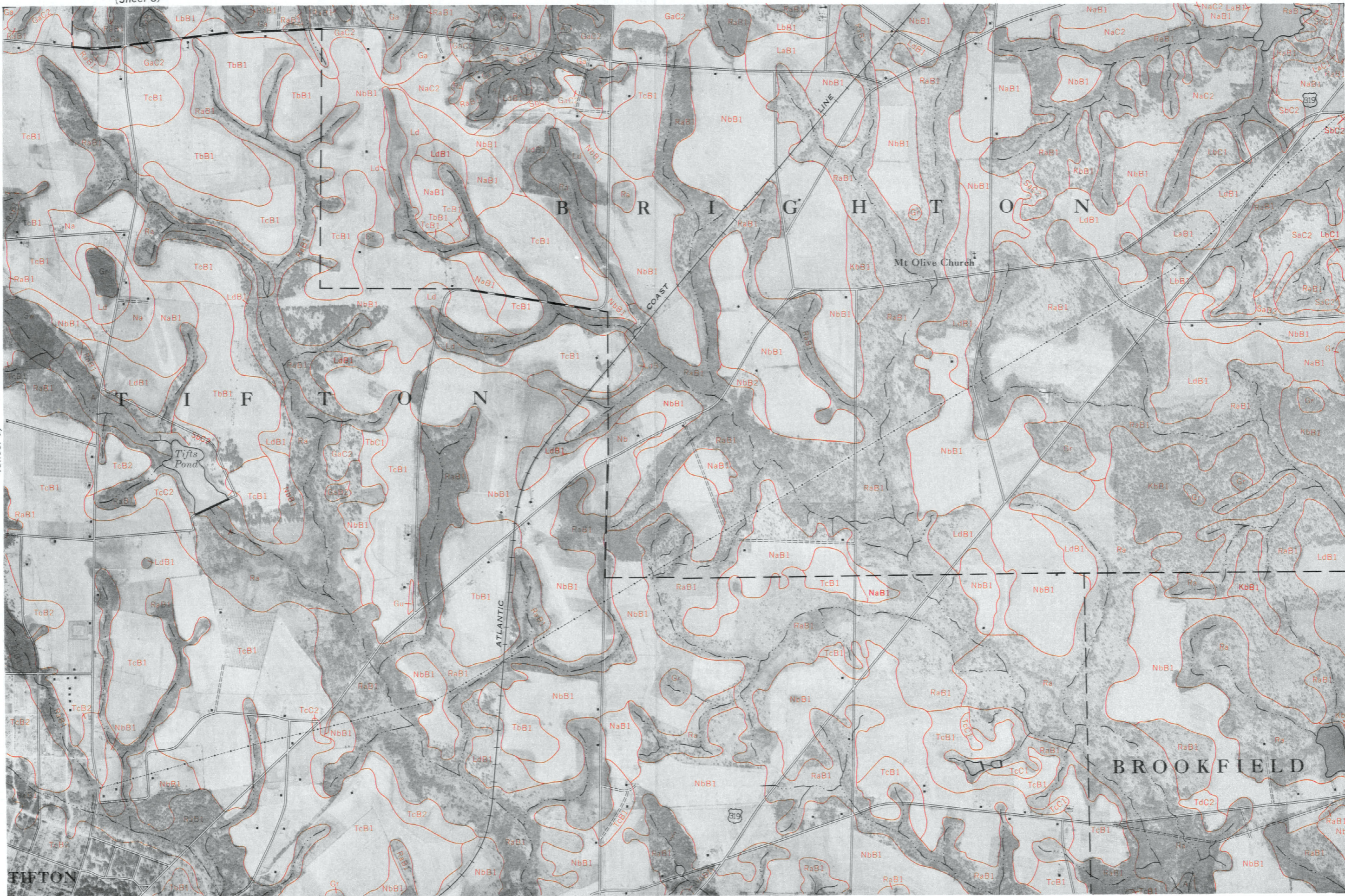




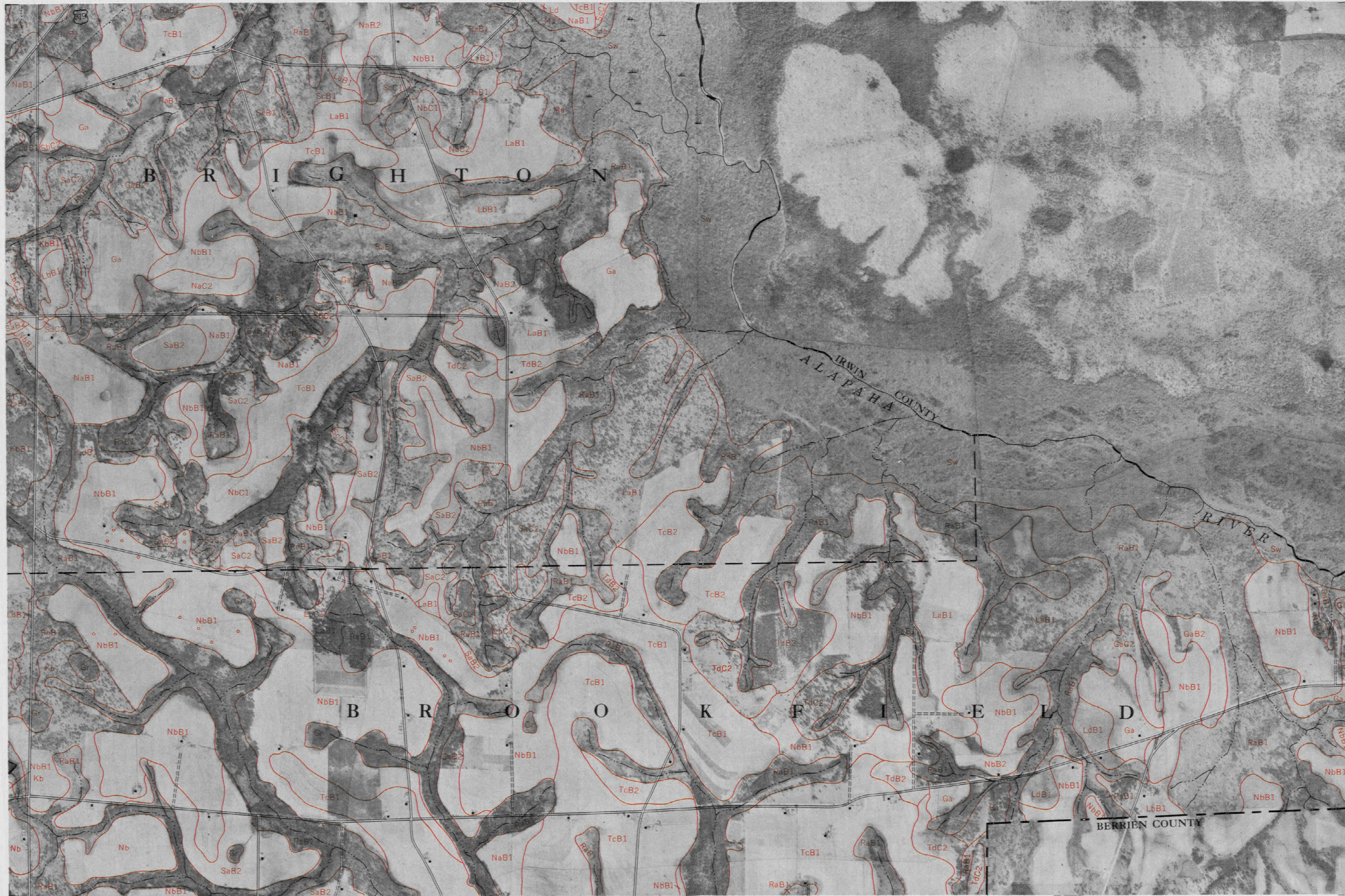


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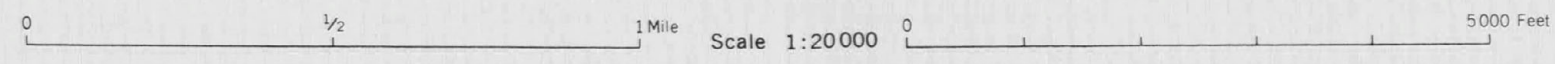
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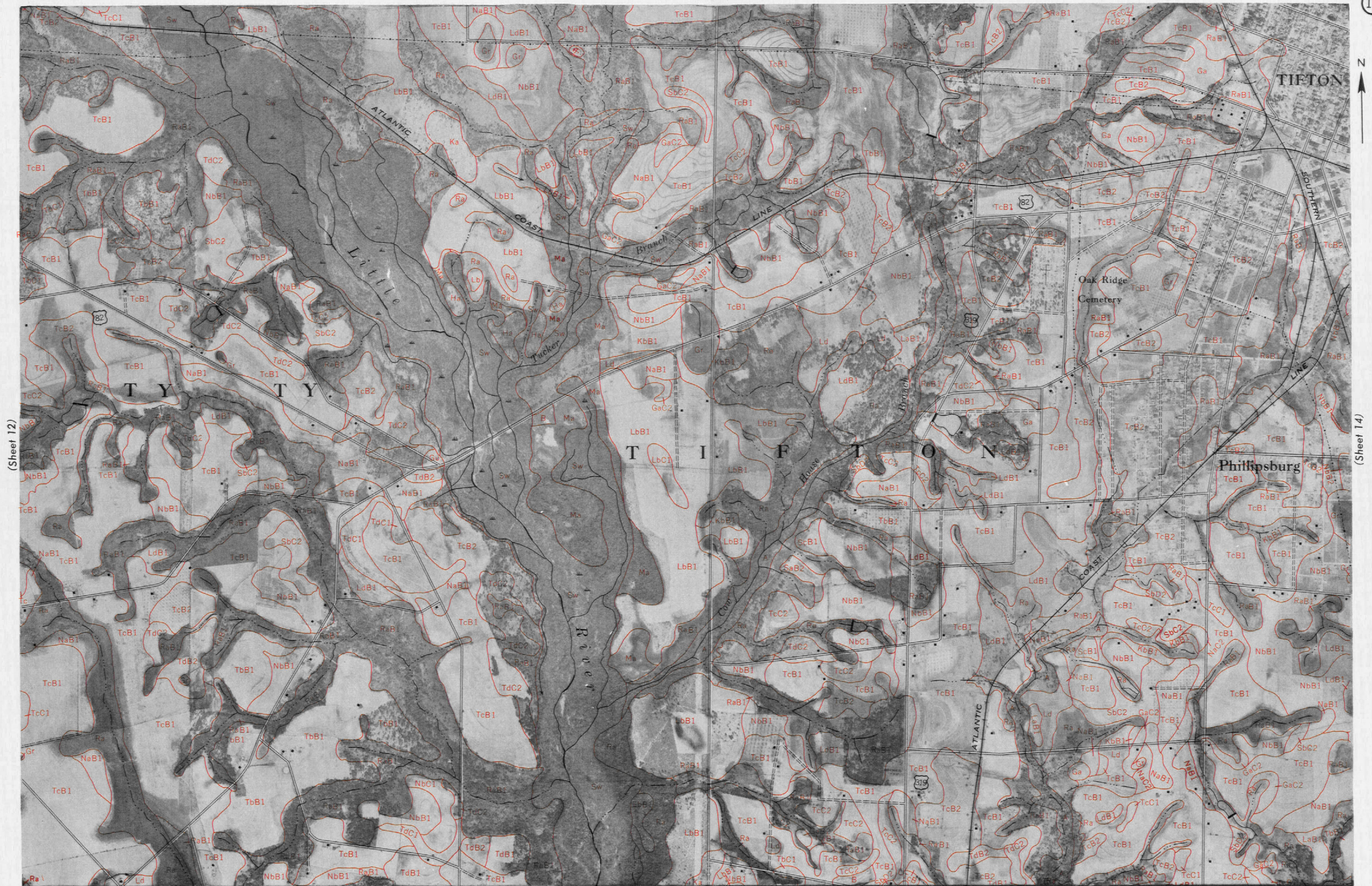
(Sheet 10)



(Joins Inset Sheet 7)







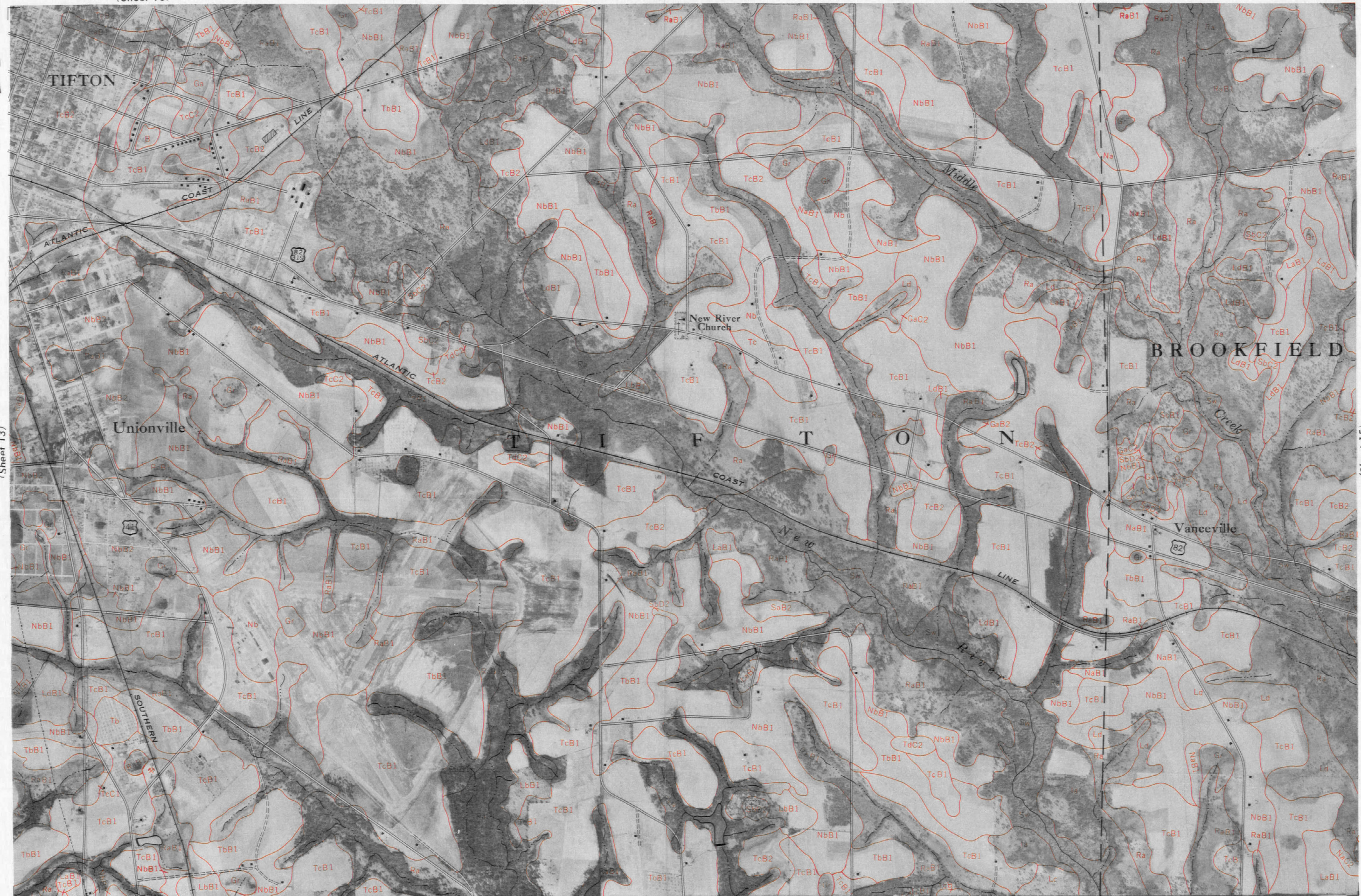
(Sheet 12)

(Sheet 14)



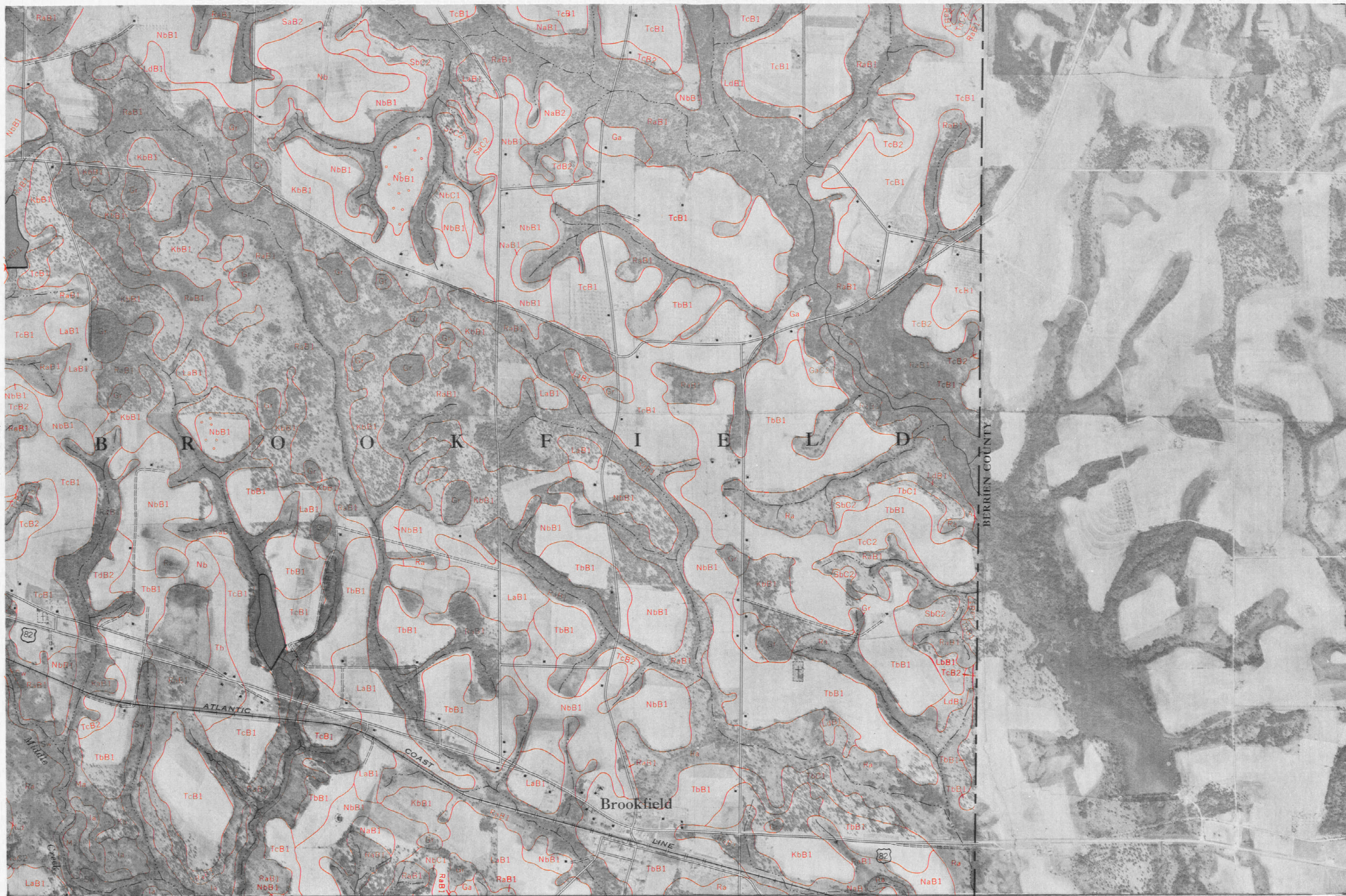
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(Sheet 15)



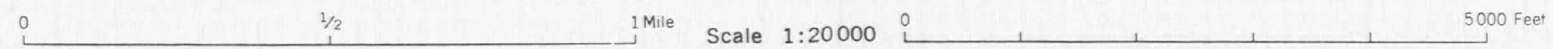


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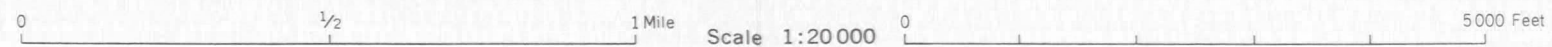


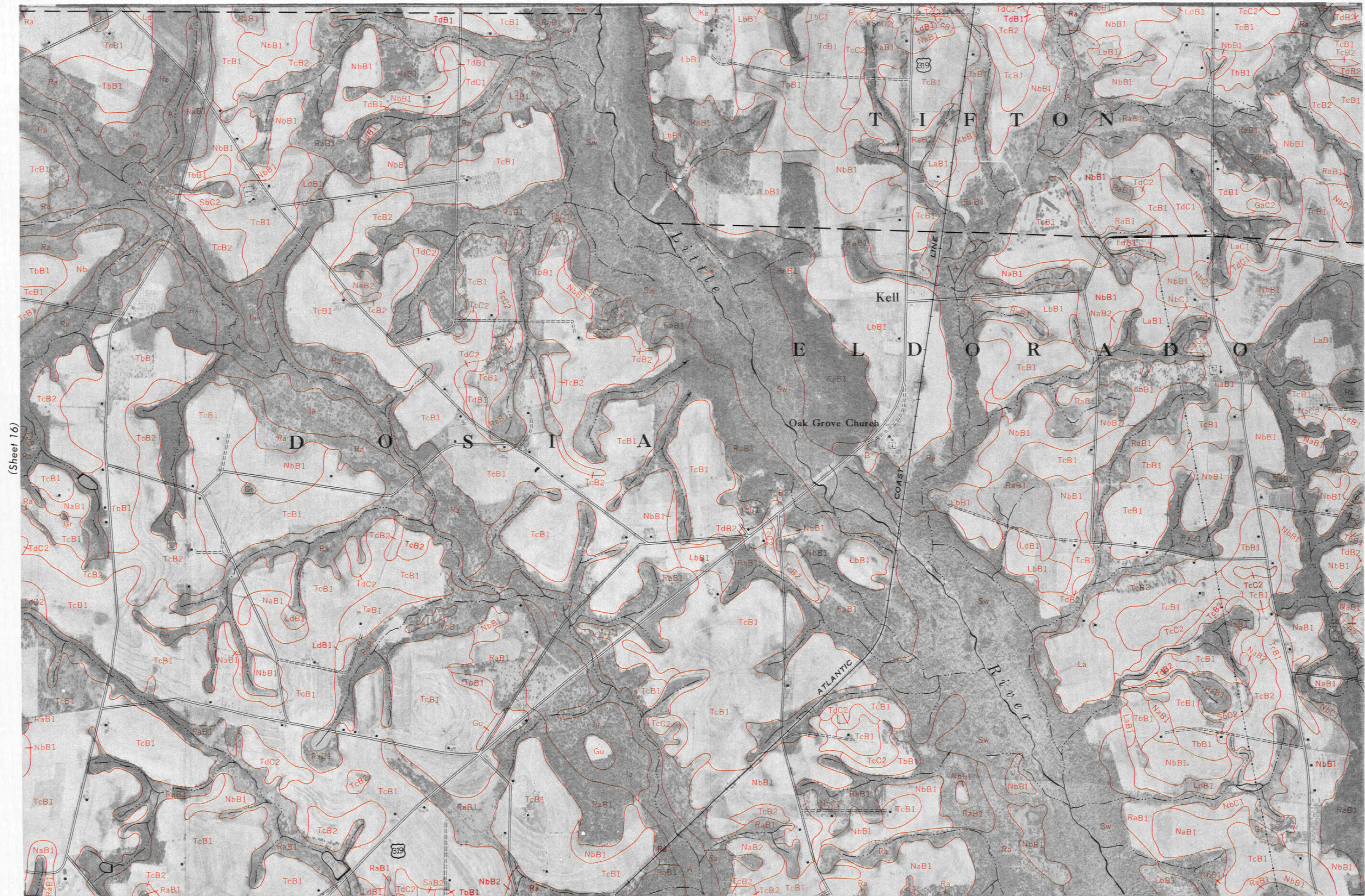
BERRIEN COUNTY

Brookfield



(Sheet 19)





(Sheet 16)

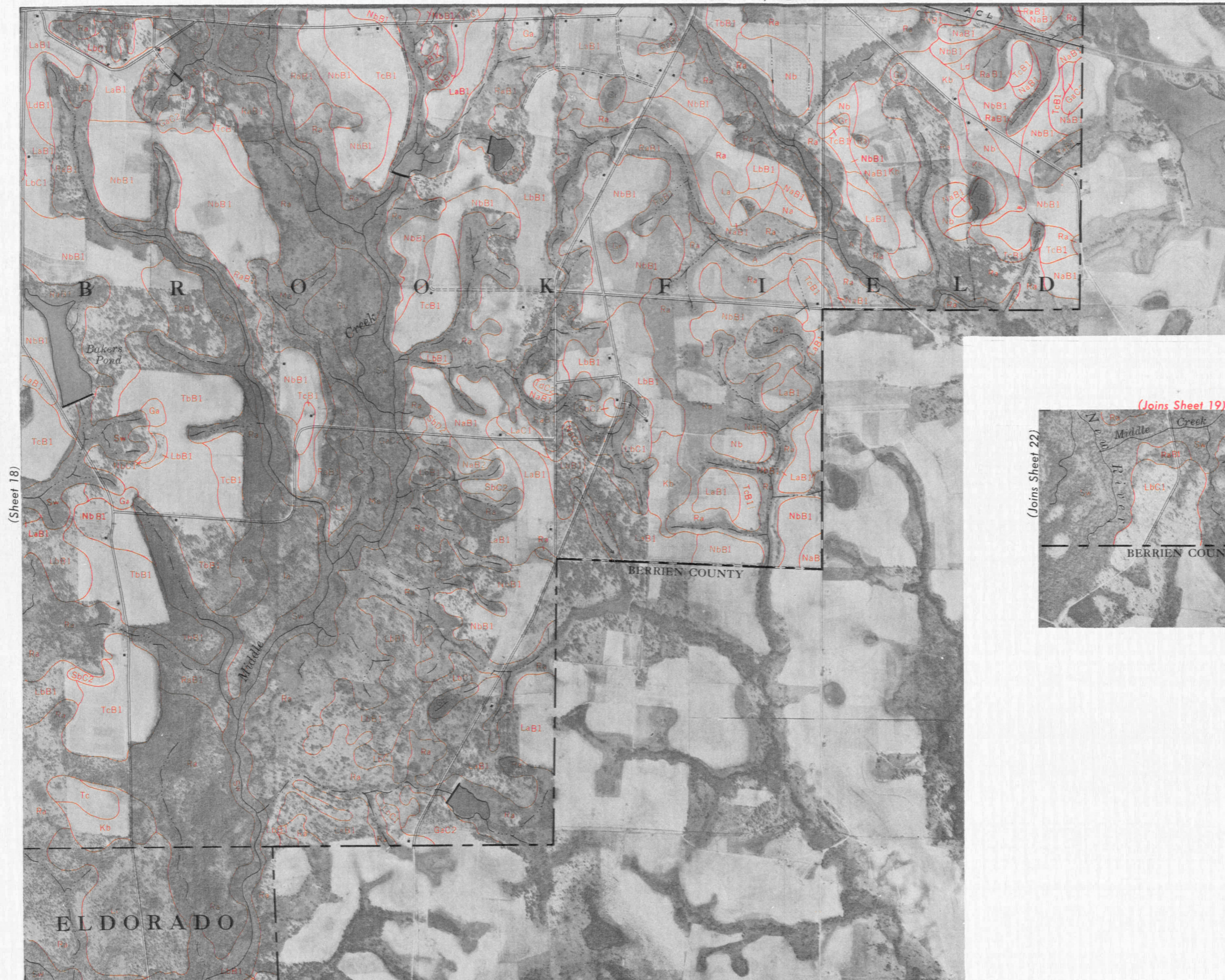
(Sheet 18)



(Sheet 17)

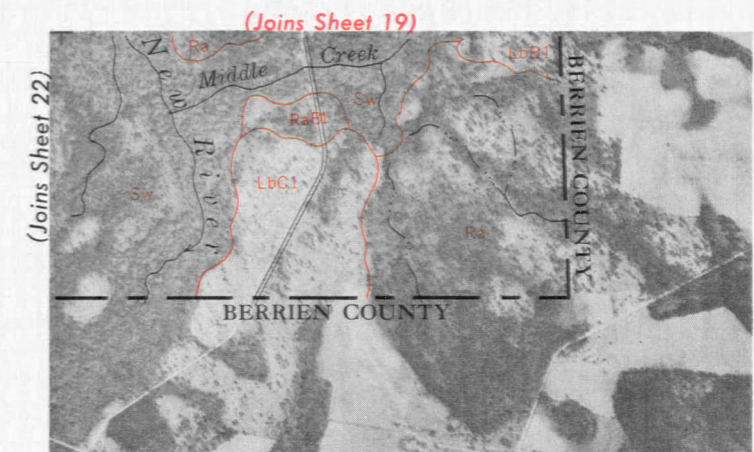
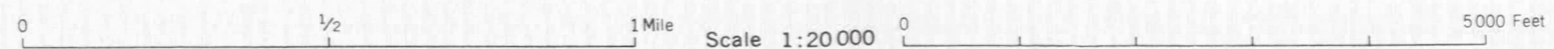


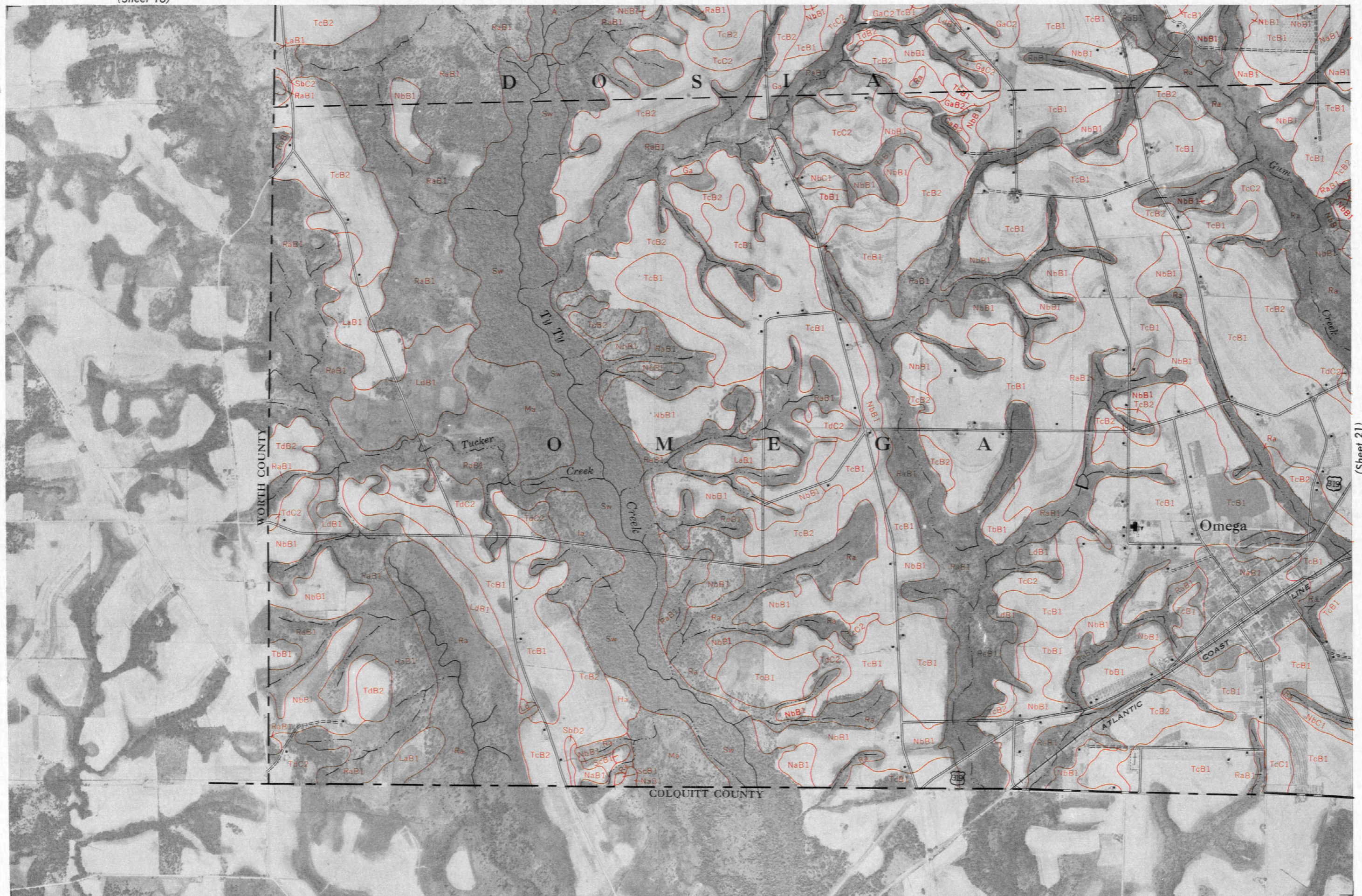
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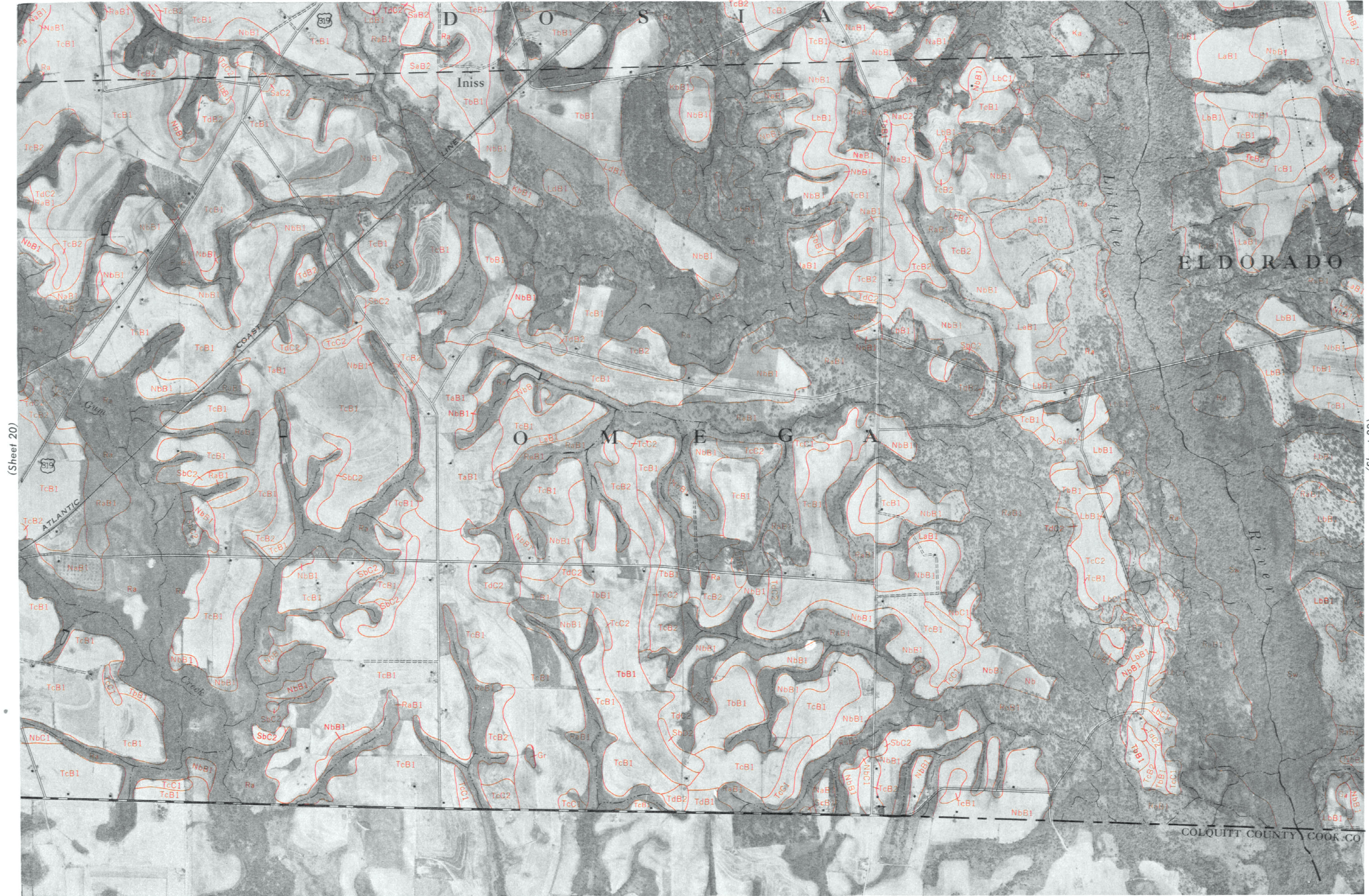
(Sheet 18)

(Joins Inset)





(Sheet 21)



(Sheet 20)

(Sheet 22)

